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FINAL ENVIRONMENTAL IMPACT REPORT
ON

SPECIAL AREA PLAN

FOR THE

SAN FRANCISCO WATERFRONT

= with section 8 and addendum added, Mar. 27, 1975 =

March, 1975

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SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
30 Van Ness Avenue, San Francisco 94102 557 - 3686

March 28, 1975

TO: All Commissioners and Alternates
FROM: Charles R. Roberts, Executive Director

SUBJECT: SECTION VIII AND ADDENDUM TO FINAL ENVIRONMENTAL IMPACT REPORT ON SPECIAL AREA PLAN FOR THE SAN FRANCISCO WATERFRONT

Enclosed you will find Section VIII of the final Environmental Impact Report on the Special Area Plan for the San Francisco Waterfront. This section indicates that the report was certified by the Commission on March 20, 1975. Also attached is the addendum to the Environmental Impact Report requested by the Commission. By attaching the enclosed pages to the most recent copy of the report, dated March, 1975, you will have a complete and certified copy of the Environmental Impact Report.

Attachments added

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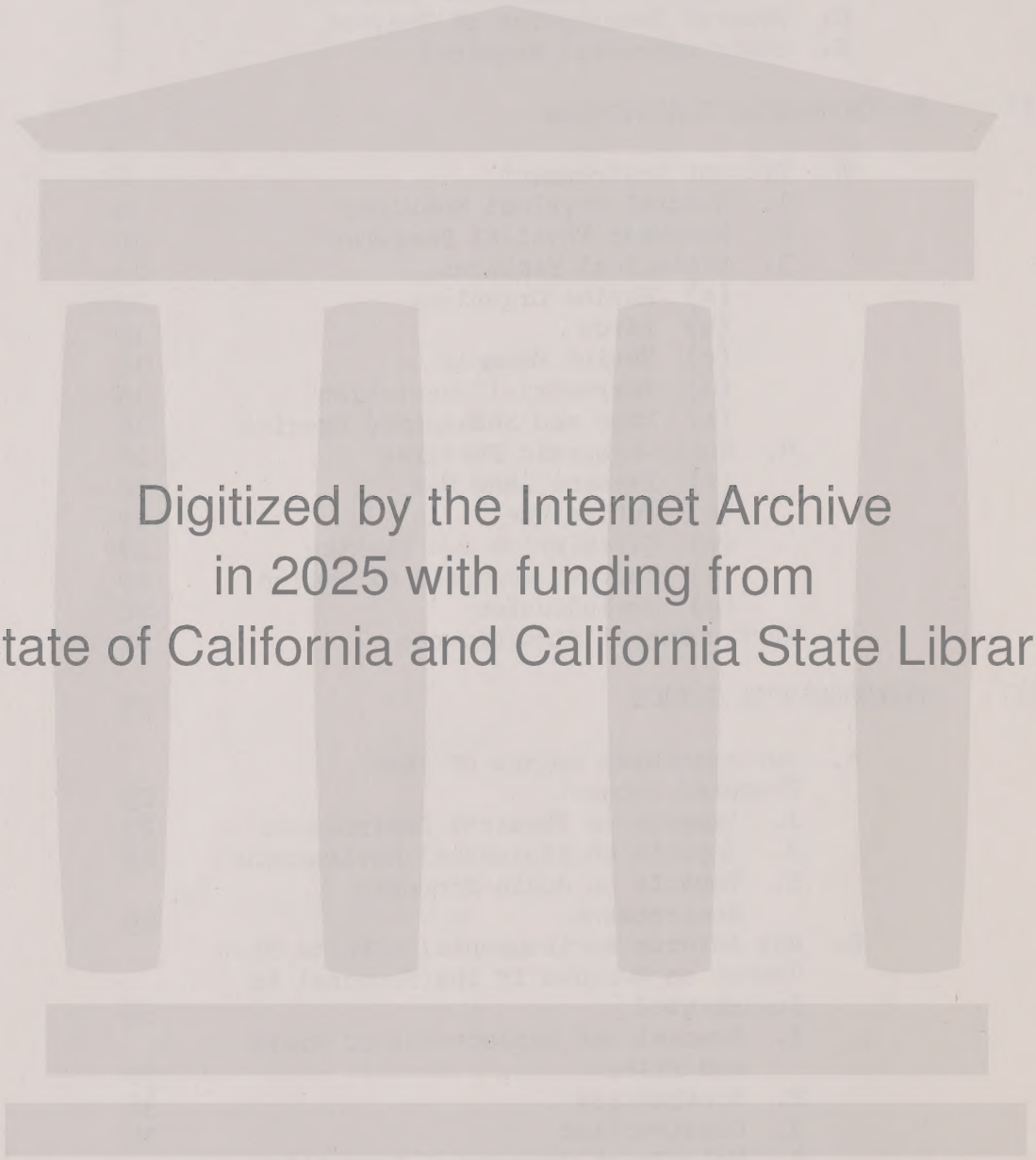

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I. PROJECT DESCRIPTION

A. Project and Its Location. The subject of this Environmental Impact Report is a proposed Special Area Plan for the San Francisco waterfront, to be incorporated by amendment into the San Francisco Bay Plan. This Special Area Plan covers a portion of the San Francisco waterfront extending from the Hyde Street Pier to the southern end of India Basin, and it is concerned primarily with those piers and seawall lots that are considered surplus to the maritime operations of the Port of San Francisco. The Special Area Plan is intended to serve as a general guide to development of the San Francisco waterfront and as a clear enumeration of the uses to be permitted on replacement piers. If adopted, the Special Area Plan will specify in greater detail how the general policies of the San Francisco Bay Plan will apply along the San Francisco waterfront.

Adoption of the Special Area Plan will facilitate the redevelopment of deteriorated piers but it will not prescribe the precise content or form of that development. Rather, the proposed Plan provides only a general indication of the type of waterfront development most likely to occur. From these broad parameters, some general environmental consequences may be deduced. Any specific development proposal that follows adoption of the Special Area Plan will require a separate Environmental Impact Report, but this report will discuss, in a general way, those environmental impacts likely to follow from development within the provisions of the Plan.

B. Statement of Purpose of the Project. The major purpose of the planning process leading to preparation of the Special Area Plan was to reach agreement on a means of reconciling the revenue needs of the Port with the requirements of BCDC law and the public interest in the Bay and waterfront. The Plan represents the synthesis of a broad spectrum of interests and serves a number of additional purposes as well.

According to Bay Plan Amendment #1-71, no commercial development may take place on replacement piers unless "consistent with a comprehensive special area plan for the geographic vicinity of the project." The adoption of a special area plan for the San Francisco waterfront would thus satisfy this BCDC requirement and open the way for the removal of deteriorating and unused piers by clarifying what type of development will be permitted on replacement piers. The Plan would give predictability to the Port and developers by setting clear guidelines as to how the Bay Plan and Amendment #1-71 will be applied to the San Francisco waterfront.

Ultimately, the purpose of the Special Area Plan is to open the San Francisco waterfront to public use, but this is unlikely to occur without some level of development. The intent of this plan, then, is to permit revenue-producing development while at the same time requiring an emphasis on open space and public amenity and assuring conformance of any development with the provisions of the McAteer-Petris Act and the San Francisco Bay Plan.

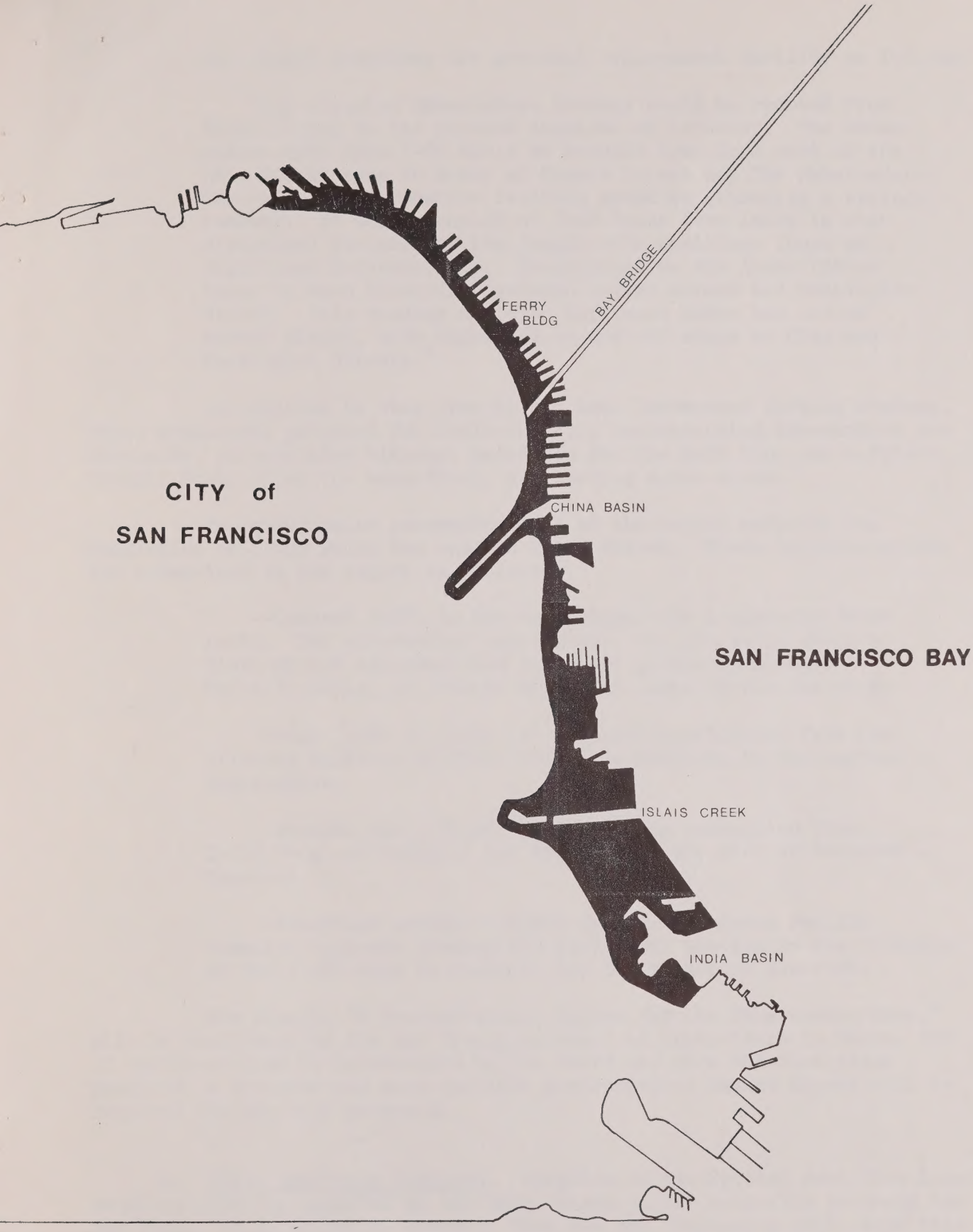
C. General Description of Project. Since in this case the project being discussed is a plan covering an extensive area, the proposed plan itself should be read to fully understand the subject of this Environmental Impact Report. The Special Area Plan establishes guidelines and policies with which certain waterfront development projects would be required to comply, but the general nature of those policies makes it impossible to predict the specific design features of any project that might follow.

The Special Area Plan policies relate primarily to permitted uses and conditions for such uses on new pier area, as well as to public access and open space. The Plan allows for development on new piers of hotels, shops, restaurants, marinas, amusements, as well as maritime and public recreation uses, all in a variety of configurations and intensities. In the vicinity of the Ferry Building, one half of the pier area must be public open space and in no case could the new pier area be greater than the pier area removed. The plan also contains recommendations to other agencies, principally the City Planning Commission and the Port, on matters relevant to development of the waterfront as a whole, although not within BCDC jurisdiction. The Special Area Plan is basically a set of rules for non-maritime waterfront development and it must be adopted before BCDC can allow any non-maritime use on replacement fill.

The Special Area Plan also refers to a report prepared by the San Francisco Department of City Planning entitled "A Transportation System for the Embarcadero Area" (November, 1974). Specifically, the Special Area Plan recommends removal of the Embarcadero Freeway and replacement in accordance with the concepts expressed in this report, although the concepts outlined in the report are not repeated in the Special Area Plan. Therefore, this section will briefly summarize that report in order to provide a basis for evaluating the environmental impact of the Special Area Plan recommendation on the Embarcadero Freeway.

The design concept described in this report considers replacement of the Embarcadero Freeway in terms of a total transportation system for the Embarcadero area as well as in terms of regional transportation needs. The transportation system described includes two major components: (1) a connection between Interstate 280 and the Bay Bridge; and (2) the demolition of the existing elevated Embarcadero Freeway and replacement with a surface and subsurface roadway. Also proposed are improved public transit and provision for pedestrian and bicycle circulation.

The proposed Embarcadero Freeway replacement, as described in the City's report, was designed with two basic assumptions in mind, the first assumption being that the replacement would provide for the existing level of traffic in the Embarcadero corridor or, if possible, a reduction in private automobile traffic. Secondly, it was assumed that any growth in peak travel demand would be accommodated on public transit, to the extent possible. The study review group, which included representatives from the City Planning Department, the Department of Public Works, CalTrans, the Metropolitan Transportation Commission, and the U. S. Department of Transportation, agreed that the current traffic function of the Embarcadero Freeway could, in fact, be accommodated on an alternative roadway in the Embarcadero right-of-way with two lanes in each direction and auxiliary lanes where necessary.



General Location Map

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The report describes the proposed replacement facility as follows:

> "The elevated Embarcadero Freeway would be removed from Beale Street to its present terminus at Broadway. The Embarcadero exit from I-80 would be brought down from east of the Main Street ramp to grade at Howard Street and The Embarcadero. The proposed alternative facility would be primarily a surface roadway. It would consist of four lanes (two lanes in each direction) for most of its length with auxiliary lanes at signalized intersections. There would be six lanes (three lanes in each direction) between Howard Street and Washington Street. This roadway would be depressed under the end of Market Street, with depressed on and off ramps to Clay and Washington Streets."

In addition to this four-to-six lane landscaped divided roadway, other components proposed for inclusion in a reconstructed Embarcadero are sidewalks, an exclusive bikeway, provision for the Belt Line and a future transit route along the waterfront, and loading apron areas.

The other major recommendations of the report refer to the completion of I-280 which now ends at Third Street. These recommendations are summarized in the report as follows:

> --Connect I-280 to the Bay Bridge with a non-waterfront route. Two alternative connections, one generally along a Sixth Street alignment and the other generally along a Colin P. Kelly, Jr. Street alignment, have particular merit.
>
> --Ramp I-280 to grade (at Second/King Streets) from the existing stub-end at Third Street, connecting to the surface Embarcadero.
>
> --Provide for a future exclusive bus connection from I-280 to a new regional bus terminal at the site of Transbay Terminal.
>
> --Establish shuttle transit from the Southern Pacific commuter railroad station and peripheral parking in the vicinity of the I-280 ramp to downtown and the financial district.

The report, "A Transportation System for the Embarcadero Area," will be considered by the San Francisco Board of Supervisors in March, 1975. If implementation is recommended by the Board and more detailed plans prepared, a separate and more specific Environmental Impact Report will be required for any work proposed.

D. Other Approvals Required. Adoption of the Special Area Plan legally requires only the approval of the BCDC, based on its authority to amend the Bay Plan. It is unlikely, however, that the Bay Commission will adopt this plan without an indication of support from the local jurisdictions. Any specific development proposal that might follow adoption of the Special Area Plan will require the approval of additional governmental agencies. A list of agencies with jurisdiction on the San Francisco waterfront may be found on pages 21-22.

II. ENVIRONMENTAL DESCRIPTION

A. Present Environment.

1. Natural Physical Features.

Geology. The geologic formations underlying the generally shallow waters of San Francisco Bay can be divided into two basic types, bedrock and Bay mud. The bedrock is an older unit composed of Franciscan rock formed in the Jurassic-Cretaceous period, 70-180 million years ago, while the sediments comprising Bay mud were, for the most part, deposited in the Bay within the last million years.

Basically, the bedrock forms a trough with sloping sides that come to the surface in the islands of the Bay. The Franciscan rock of the bedrock formation is also exposed in various parts of the City of San Francisco. Insofar as is known, the very irregular surface of the bedrock drops off steeply on the west side of the Bay, deepens to the east, and is generally deeper in the southern part of the Bay where depths of 300 to 800 feet are common. In comparison, the depths of bedrock along the San Francisco waterfront are substantially less, ranging from 150 feet at Fisherman's Wharf, to 250 feet near the Ferry Building, 200 feet between the Bay Bridge and China Basin and 50 to 250 feet along the waterfront south of China Basin.

The bedrock is covered by a thick deposit of older Bay mud ranging from less than a foot to more than 200 feet in depth. The older Bay mud unit appears to increase toward the central portion of the Bay and may be missing altogether along some of the margins of the Bay. A layer of sand overlies the older Bay mud in certain portions of the Bay. It is known, for example, that a sand layer with a maximum thickness of 50 feet underlies much of the Islais Creek Basin on the San Francisco waterfront. Younger Bay mud, the youngest unit in the unconsolidated sedimentary sequence covering the Bay floor, overlies the older Bay mud and the sand unit. Younger Bay mud covers most of the Bay bottom and may be as much as 130 feet in depth.

Along the San Francisco waterfront, the ground surface immediately behind the seawall and including much of the downtown financial district is composed primarily of sand, silt, clay, rock waste, man-made debris and organic waste. This artificial fill, resting on younger Bay mud, may not have been properly engineered. The entire waterfront area covered by the Special Area Plan is composed of such artificially-filled land and pile-supported platforms.

Faults and Seismic History. The San Francisco Bay Area lies within an earthquake belt bordering the Pacific Ocean, making the Bay region one of the most seismically active in the United States. There are three major active faults in the Bay Area, the San Andreas, Hayward and Calaveras Faults, all of which are part of the San Andreas Fault System. The San Andreas Fault, the largest and most westerly of the three faults, lies west of San Francisco, passing within about one mile of the southwest corner of the city and about five miles from its center. The Hayward Fault, running through the East Bay, is about twenty miles east of and almost parallel to the San Andreas Fault. The Calaveras Fault, also roughly parallel to the other two, is located east of the Hayward Fault. There are no active faults within the City of San Francisco, but the San Andreas Fault, closest to San Francisco, is believed

capable of producing greater earthquakes than either of the other two major faults.

The Bay counties have experienced about twelve damaging earthquakes in the last century, with the last major quake, caused by a rupture on the San Andreas Fault, occurring in 1906. Although there is no regular periodicity to such major quakes, it seems reasonable to expect an earthquake comparable to the San Francisco quake of 1906 once in 60 to 100 years. Further, it is generally expected that areas of historically high seismicity are most likely to be the centers of damaging earthquakes in the future.

The evidence thus clearly suggests that San Francisco is likely to experience a major earthquake sometime in the future and the San Francisco Seismic Safety Investigation (June 1974) indicates the City's eastern waterfront, covered by the Special Area Plan, as a particularly hazardous area. This hazard stems primarily from the very low earthquake stability of artificial fill placed over soft Bay mud in the lower waterfront areas of the City.

The San Francisco Seismic Safety Investigation predicts that ground motion caused by an earthquake similar to the 1906 quake will cause very strong to violent shaking along most of the San Francisco waterfront. This shaking could cause ground failure, due to cracking of rock masses, and deep and extended fissuring of the soil which would cause extensive damage to structures and streets. While it is generally thought that ground shaking causes most of the catastrophic damage and loss of life in major earthquakes, ground failures, including liquefaction and subsidence, are believed to have even greater potential for damage in the filled areas of the San Francisco waterfront.

Liquefaction is a phenomenon which occurs in loose or medium-dense, water saturated, cohesionless materials such as sand which tend to subside and flow when subjected to earthquake vibrations. Changes in intergranular pressures due to intense and prolonged ground shaking may cause certain soils to lose their strength and liquefy. The San Francisco Seismic Safety Investigation points to a particular liquefaction hazard along the waterfront where bulkheads and quay walls are used to retain loose saturated sand fill that may liquefy under earthquake motion, thereby causing extensive damage. The entire waterfront covered by the Special Area Plan is an area of liquefaction potential. Although the hazard is most serious in the filled areas behind the seawall, pile-supported piers might also be affected, depending on local soil conditions.

Subsidence is the rapid and uneven settlement of ground surface caused by strong ground motion. Again, the Seismic Safety Investigation finds the subsidence hazard largely restricted to the eastern waterfront area where man-made fills are underlain by compressible Bay muds and low density sand. Extensive damage from subsidence occurred during the 1906 earthquake and those materials in which subsidence took place are still present and capable of further subsidence in a strong earthquake.

Tsunamis and seiches constitute another potential earthquake hazard, particularly to waterfront areas. A tsunami is a transient sequence of long-period sea waves generated by earthquakes, coastal or submarine landslides, or volcanic phenomena. The most common tsunamis in San Francisco Bay

are caused by major earthquakes in coastal areas of the Pacific Ocean. The elevation of a tsunami is measured in terms of vertical run-up, or wave heights, of water at a coastal recording station; nineteen tsunamis of varying sizes have been recorded in the last 100 years at the Presidio Tide Station near the Golden Gate. While the maximum run-up noted has been 7.5 feet, in 1964, it is felt that the maximum probable tsunami run-up at the Golden Gate would be 20 feet. The wave amplitude would be reduced in the Bay to about 10 feet at Potrero Point, but a tsunami of this size would still inundate the entire waterfront area covered by the Special Area Plan. A tsunami of this magnitude is actually much less likely to occur than a major earthquake, but project planning should nevertheless consider the effect of possible tsunami inundation.

A seiche is the periodic oscillation of a closed or semi-closed body of water caused by an earthquake or landslide. A seiche would set the whole Bay in motion, sloshing from side to side. The 1906 earthquake did not cause a large seiche but if an earthquake of the kind needed to cause a seiche did occur, the maximum probable run-up would be an estimated 10 feet on either side of the Bay, no larger than the maximum tsunami run-up. A seiche of the maximum probable size would inundate the San Francisco waterfront and cause extensive damage.

Tides, Currents, Surge. Tides originating in the Pacific Ocean enter the Bay through the Golden Gate where the mean diurnal tide range is 5.7 feet. The tide wave is propagated both to the north, toward the Delta, and to the south, toward the City of San Jose. The southern wave, which moves along the San Francisco waterfront as it is propelled southward, is considered to be a "stationary" wave. That is, when the peaks reach the south end of the Bay, they are reflected back toward the Golden Gate. The reflected wave is added to the next incoming wave, so instead of a decrease in tide range with distance from the Golden Gate, there is actually an increase. The mean diurnal tide range at the Dumbarton Bridge is 8.4 feet, substantially greater than at the Golden Gate.

The tidal flow into and out of the Bay maintains a system of deeper channels that branch north and south of the main channel at the Golden Gate. The southern trunk channel lies west of the center of the Bay, between the San Francisco waterfront and Yerba Buena Island. Within this channel the currents are swift and, in the Central Bay, marked by violent eddies that accompany the very large tidal flows passing through a constricted harbor entrance. The currents in the Bay are thus primarily related to tidal flow although influenced by the shape and bottom configuration of the Bay and modified to a degree by wind and freshwater outflows. Currents along the San Francisco waterfront are generally strong compared to currents in other parts of the Bay.

Surge, characterized by long-period waves, has been noted in the Fisherman's Wharf area of the San Francisco waterfront and closer to the Golden Gate, at Gas House Cove. This wave condition has been under study by the U. S. Army Corps of Engineers since February, 1972. To date, the study has not yielded conclusive results, but those with experience in the Fisherman's Wharf area generally believe that damaging surge, in combination with short-period waves from the north and northwest, is most serious in the winter months.

Local wave conditions have not been studied in detail along other portions of the San Francisco waterfront.

Water Quality. The San Francisco Bay complex is basically a salt-water environment since it is directly open to the Pacific Ocean. While the salinity of the Bay is affected by the amount of water entering the Bay from streams, rivers and sewage outfalls, and by evaporation, Bay water is generally too saline to serve as a domestic or agricultural water supply. Nevertheless, the Bay serves many other purposes including recreation, commerce, fishing and viewing. The Bay is also used for municipal and industrial sewage disposal.

The flushing process of tidal action is the principle mechanism for removing pollutants from the Bay. The tidal prism--the volume between high and low tides--is about 20% of the average total volume of water in the Bay and 24% of this tidal prism is replaced by new ocean water during each tidal cycle. This flushing process, however, is not totally effective in dealing with all pollutants dumped into the Bay. Much of the BOD (biochemical oxygen demand) not removed by sewage treatment is actually removed by oxygen in the Bay. The Bay's oxygen supply is then replenished primarily through surface reaeration, a natural process whereby oxygen from the air is taken into the water.

San Francisco Bay is relatively clean compared to waterways in other parts of the country and the world, but there are still many local sources of pollution degrading water quality around the Bay. For example, the water quality of the Bay is generally not high enough to permit the harvesting of shellfish for human consumption. The major sources of water pollution along the San Francisco waterfront are municipal sewage outfalls.

San Francisco has a combined sewage and storm drainage system with wastewater treated in the City's three sewage treatment plants. The outfall for the Richmond-Sunset plant is on the Pacific Ocean side of the City, while the outfalls for the Northpoint and Southeast plants are located along the City's Bayfront. The Northpoint plant has four outfall pipes located under Piers 33 and 35 and the single outfall for the Southeast plant is located in the Bay easterly of the Army Street Terminal, Pier 80. San Francisco's three sewage treatment plants provide primary treatment with chemical addition.

On dry weather days, the combined capacity of San Francisco's three water pollution control plants can adequately handle municipal sewage. However, when rainfall exceeds 0.02 inches per hour, a combination of untreated domestic wastewater and stormwater overflows into the Bay and Ocean at 41 bypass locations around the perimeter of the City. Thirty-two of these bypass outfalls are located within the Bay and 28 are within the area covered by the Special Area Plan. Such overflows of raw sewage into the Bay occur approximately 80 times a year.

In accordance with the requirements of the Regional Water Quality Control Board, the City of San Francisco monitors the quality of Bay water along its shoreline on both wet and dry days. Bay water in the vicinity of the Northpoint and Southeast plants is monitored twice a month every other month

while random monitoring of bypass locations takes place on rainy days. The Bay is monitored by the City's Department of Public Works for floating or suspended microscopic particulate material, discoloration, turbidity, odor, coliform content, dissolved oxygen, ph, temperature and the distance that a disc can be seen below the surface.

The water quality standards set by the State Department of Health are violated more often and to a greater degree on wet weather days when untreated sewage passes into the Bay. On these days, Bay water in the vicinity of the bypass outfalls is discolored, odorous and contains oil, grease, fecal matter and garbage. On such days, coliform content of the water greatly exceeds the required standards for salt-water bathing.

The Fisherman's Wharf area is monitored separately, by the San Francisco Health Department, for coliform content only and the required standard for salt-water bathing is violated on approximately 25% of the dry weather days. Although the source of this pollution is sometimes impossible to determine, it is believed that leakage from restaurant sewer pipes and dumping from commercial and recreational boats contribute to the problem. Since no swimming actually takes place in the Fisherman's Wharf boat basin, the Health Department has not taken steps to declare the area a public nuisance.

In response to a cease and desist order issued by the Regional Water Quality Control Board, the City of San Francisco has prepared, and is beginning to implement, a Wastewater Master Plan in order to achieve compliance with the State and Federal treatment standards. During the first phase of the Master Plan, raw sewage from the Northpoint service area will be pumped to the Southeast Treatment Plant which will provide secondary treatment for dry weather flows and an improved outfall for passing the effluent into the Bay. The Northpoint plant will be converted to a wet weather facility and retention basins will be constructed to control overflows into the Bay. Eventual completion of the system will provide secondary treatment of all waste during a major part of the year, ocean disposal of most effluent and elimination of most raw sewage flow into the Bay along the San Francisco waterfront.

Climate. San Francisco has a maritime climate with moderate temperatures in both summer and winter. Precipitation is moderate as well, with more than 85% of the rain falling in the winter months. The effect of the Pacific Ocean is felt throughout the year in San Francisco with the prevailing movement of air being from ocean to land. The gap in the Coast Range at the Golden Gate facilitates the flow of sea breezes that cool San Francisco and these ocean breezes prevail throughout most of the year. Relative humidity remains high and evaporation low with fog and low-lying stratus clouds characterisitc of San Francisco during the summer months.

The prevailing winds in San Francisco come from the northwest and west although the direction of local winds may be influenced by topography and building masses. The strongest average winds occur in the summer while the highest velocity winds come with winter storms.

Air Quality. The Bay Area as a whole has a moderately severe photochemical smog problem which is considered by the Environmental Protection Agency to be significant. Several factors contribute to this problem including topography, weather and man-made sources of pollution. The Bay forms the center of a large shallow basin ringed by hills and thus the topography provides an environment in which air pollutants can be trapped and accummulated. Contaminants from automobiles and industrial sources are emitted in this basin at a fairly constant rate throughout the year, although pollution concentrations in the air actually vary greatly. The most important factor affecting the quality of the air from day to day is the weather. Normally, the prevailing weather conditions are such as to disperse most of the pollutants in the air, but there are certain times of year when this is not the case.

Smog is most frequent in the Bay Area during the summer and fall months when warmth, sun and poor ventilation combine to foster the development of photochemical oxidant. During this period, temperature inversions trap the moisture-laden air of the prevailing westerly breezes in the large urbanized basin of the Bay, resulting in a low visibility photochemical smog condition that remains until sea breezes return to clean out the basin. Even when such a smog condition exists, however, the severity of the problem is not uniform throughout the entire Bay Area. The concentration of air pollutants at any given location is largely dependent on the direction and velocity of the wind.

San Francisco is one of the cleanest parts of the Bay Area in terms of air quality because of its location near the Golden Gate. While San Francisco, as a regional job center, has heavy concentrations of traffic, emissions produced in San Francisco are often carried into the South Bay by the prevailing westerly and northwesterly winds which weaken with distance from the Golden Gate. Except on those occasions when there is no breeze at all, the air quality in San Francisco is generally better than in other parts of the basin. In fact, air pollution standards are exceeded much more frequently in South Bay communities than they are in San Francisco.

Air quality in San Francisco is monitored against Federal and State standards for oxidants, carbon monoxide, sulphur dioxide, particulate matter and nitrogen dioxide. In 1973, the standards for oxidants and carbon monoxide were exceeded on two days, the standards for suspended particulate matter were exceeded on approximately 8% of the days observed and standards for nitrogen dioxide and sulphur dioxide were never exceeded on the days monitored.

Vehicle emissions, containing hydrocarbons, nitrogen oxides and carbon monoxide, constitute the major general source of air pollution on the San Francisco waterfront. The hydrocarbons and nitrogen oxides react with sunlight to create photochemical smog, while carbon monoxide has a very localized effect and then disperses into the air. Vehicle emission of hydrocarbons, nitrogen oxides and carbon monoxide varies with a number of factors including the age and condition of the vehicle and the speed at which it travels. In general, emissions of carbon monoxide and hydrocarbons decreases with speed while emissions of nitrogen oxides increases with speed.

Electric generating plants and maritime and industrial operations constitute additional sources of pollution in San Francisco, accounting for a major part of the particulate matter and sulphur dioxide in the air as well as

some portion of the other major pollutants. The Bay Area Air Pollution Control District cites nine manufacturing concerns and two PG & E electric generating plants as major point sources of air pollutant emissions near and along the city's southern waterfront. Ships are also noted as a source of sulfur dioxide.

A more detailed study of existing air quality and the level of pollutant emissions along the San Francisco waterfront is not available, nor was such study feasible at this stage of planning. However, such information will have to be developed in order to gauge the impact of future development on air quality. Future environmental impact reports on specific projects should cover this point in detail.

Noise. Detailed noise level measurements are not available for the waterfront area covered by the Special Area Plan and it was not feasible at this stage of planning to do such detailed study. Some general information on San Frandisco noise levels is, however, available.

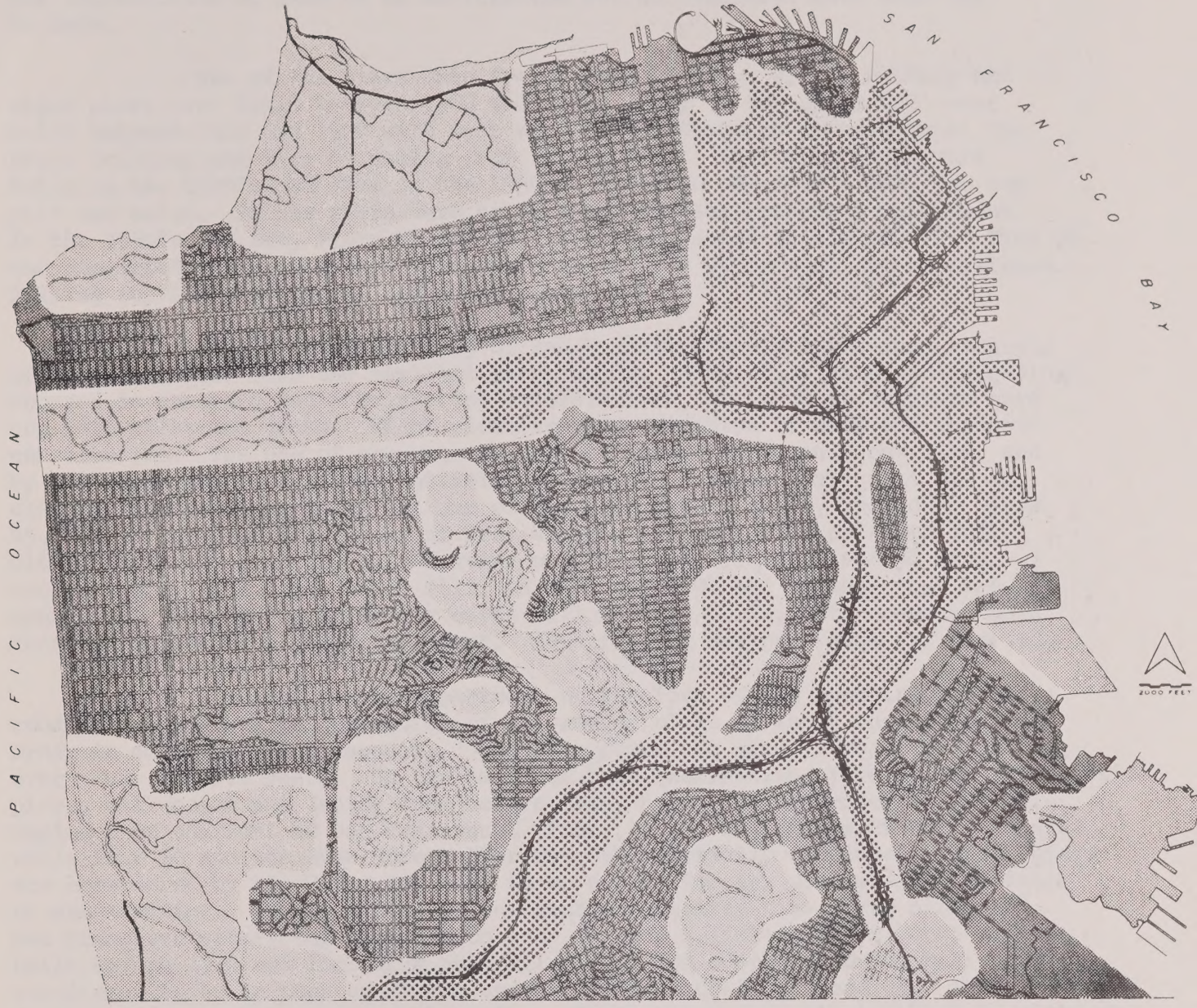
The ambient noise level, resulting from many sources over a wide area heard as a general roar of undifferentiated sound, is generally high in San Francisco due to the density of development in the city. Traffic is the major generator of background noise in the city with freeways, major city streets and certain municipal transit routes being the principle sources of noise. Such transportation noise is a function of both the number of vehicles and the noise output of the vehicles themselves. Any reduction in the ambient noise level is expected to result from improvements in private and mass transit vehicles rather than from a reduction in the volume of traffic.

A report entitled "Noise in San Francisco," (July, 1974) prepared by a consultant for the Department of City Planning, provides some general information on ambient noise levels in San Francisco. That report utilized a rather new method of characterizing environmental noise called the Day-Night Equivalent Sound Level (Ldn), a measurement recommended by the Environmental Protection Agency for describing the cumulative effect of exposure to all sources of environmental noise. Ldn describes, in decibels, the average level of noise over a 24-hour period, taking into account the greater annoyance value of nighttime noise. With data derived from a model based on traffic flow data, three different noise levels were mapped in San Francisco. As shown in Exhibit 1 on the following page, the area from Pier 27 to Warm Water Cove has an average noise level of 65 Ldn, thus falling into the noisest part of the city. The major portion of the rest of the waterfront was mapped at 60 Ldn, while a small portion of the southern waterfront has an average noise level of 55 Ldn. More detailed sound level meter readings now being taken by the City are expected to show that noise levels are significantly higher than the average Ldn measurement at peak traffic periods in areas immediately adjacent to major noise generators such as the Embarcadero Freeway.

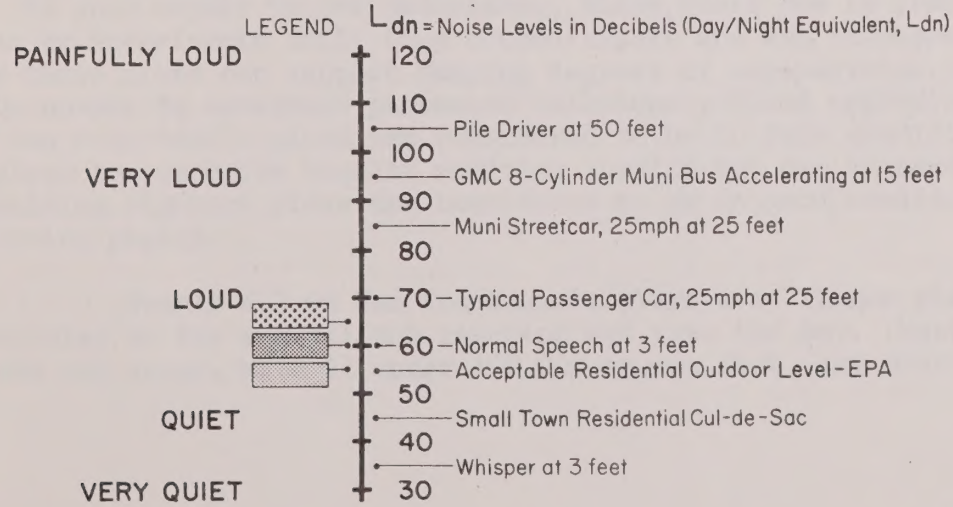
2. Man-Made Physical Features.

Piers. The pile-supported piers of the Port of San Francisco constitute a major man-made feature of the city's bayfront. There are forty-six piers along the San Francisco waterfront and a forty-seventh pier, Pier 94, is under construction with one berth scheduled for completion in late 1975.

EXHIBIT 1



BACKGROUND NOISE* LEVELS-1974



*Background Noise:
The general din of street noises excluding all separate, distinguishable noise events.

Source: San Francisco Department of City Planning

The construction of Pier 98 is anticipated but no contracts have been let to date.

Two of the piers date from before the turn of the century and eight piers were built between 1900 and 1919. Many of the piers (22) were built between 1910 and 1920 with most of the even-numbered piers between the Ferry Building and Pier 64 dating from this period. Five more piers were built in the 1920's and five in the 1930's, while in the 1940's only one new pier was built. No new piers were built along the San Francisco waterfront in the 1950's and two, Piers 27 and 80, were constructed in the 1960's. Pier 96 was completed within the last five years while Pier 94 is still to be finished. Filling for Piers 94 and 96 began ten years ago.

Nearly one-third (14) of San Francisco's piers are made entirely of wood and these were the earliest piers built. Nine piers have wooden pilings encased in concrete and a reinforced concrete deck, while thirteen piers have concrete piles and decks. Eight piers are a combination of wood and concrete construction. The use of concrete in pier construction began about 1910, and by 1915 some piers were made entirely of concrete. Solid earth fill was an element in the construction of four of San Francisco's piers, including Piers 45, 80, 94 and 96. The center of Pier 45 is a concrete slab on solid fill with the perimeter of the pier resting on piles, and Piers 80 and 96 have concrete slab decks over solid fill, as will Piers 94 and 98 when they are completed. Pier 94 is primarily earth fill at this point, with concrete work about to commence on the first wharf. Some filling has been done for Pier 98.

The engineering department of the Port of San Francisco tries to conduct a pile-by-pile inspection of all wooden piers at least once a year in order to determine load capacity. Concrete piers are given a major evaluation every four to five years. On the basis of this examination, five of San Francisco's piers, all wooden and dating from before 1915, have been condemned by the Chief Engineer of the Port of San Francisco. Piers 5, 14, 18, 20 and 22 are condemned while Pier 70 and the Hyde Street Pier are both partially condemned. These piers are considered by the Chief Engineer to be unsafe for any use, whether maritime or non-maritime. The condition of the remaining thirty-nine piers along the San Francisco waterfront varies from poor to good. Fifteen piers, most of them built before 1920 and including both all-wooden and concrete/wooden piers, are considered to be in poor condition and are limited to light loading. These piers can no longer support full maritime loads which are extremely heavy, although they could be upgraded for maritime use by repairing or replacing deteriorated piles. If such repair is not undertaken, those piers now in poor condition will continue to deteriorate until they become unsafe and are condemned. In the interim these piers can support varying degrees of non-maritime use although it would be unwise to construct permanent buildings without upgrading the pilings. Six of San Francisco's piers are considered to be in fair condition by the Port. These piers are used for regular maritime loading but are in need of repair. The remaining eighteen piers are considered to be in good condition (see maps on following pages).

Nearly all of San Francisco's piers are "finger piers," perpendicular to the seawall and reaching out into the Bay. Most of these piers are not large, with 11 under 100,000 square feet, and over half containing

100,000 - 200,000 square feet. Piers 50, 80, 94 and 96 are large terminals with a different configuration and much greater acreage than the finger piers. Pier 50 is just over nineteen acres, Pier 80 is seventy acres and Pier 96, sixty-one acres. When completed, Pier 94 will be approximately 58 acres.

Most of the piers have sheds built on them, and the condition of the sheds varies as does the condition of the piers. Fifteen piers have sheds in fair condition and seventeen have sheds in good condition. Piers 47, 49, 36 and 64 have other structures on them, ranging from restaurants to a machine shop and ten piers, including all of the condemned piers, have no structures on them. The Ferry Building, a prominent landmark on the waterfront at the foot of Market Street, also rests on a pile-supported platform.

Transportation Facilities. Transportation facilities and structures including the Bay Bridge, the Embarcadero Freeway, The Embarcadero and the Belt Line railroad tracks, constitute other important physical features along the San Francisco waterfront area treated in the Special Area Plan.

The double-tiered, five-lane Bay Bridge enters San Francisco above Pier 24, between Harrison and Bryant Streets. The Embarcadero Freeway then exits off the Bay Bridge and runs parallel to the waterfront from just south of the Ferry Building to Broadway, where it ends. The only other exits are to Washington and Clay Streets. The freeway is elevated and double-tiered with the lowest point of the structure being 23.5 feet above ground and the highest point, 60 feet. Southbound traffic runs on the upper level, northbound on the lower level and the roadway is fifty feet wide with three to four lanes of traffic.

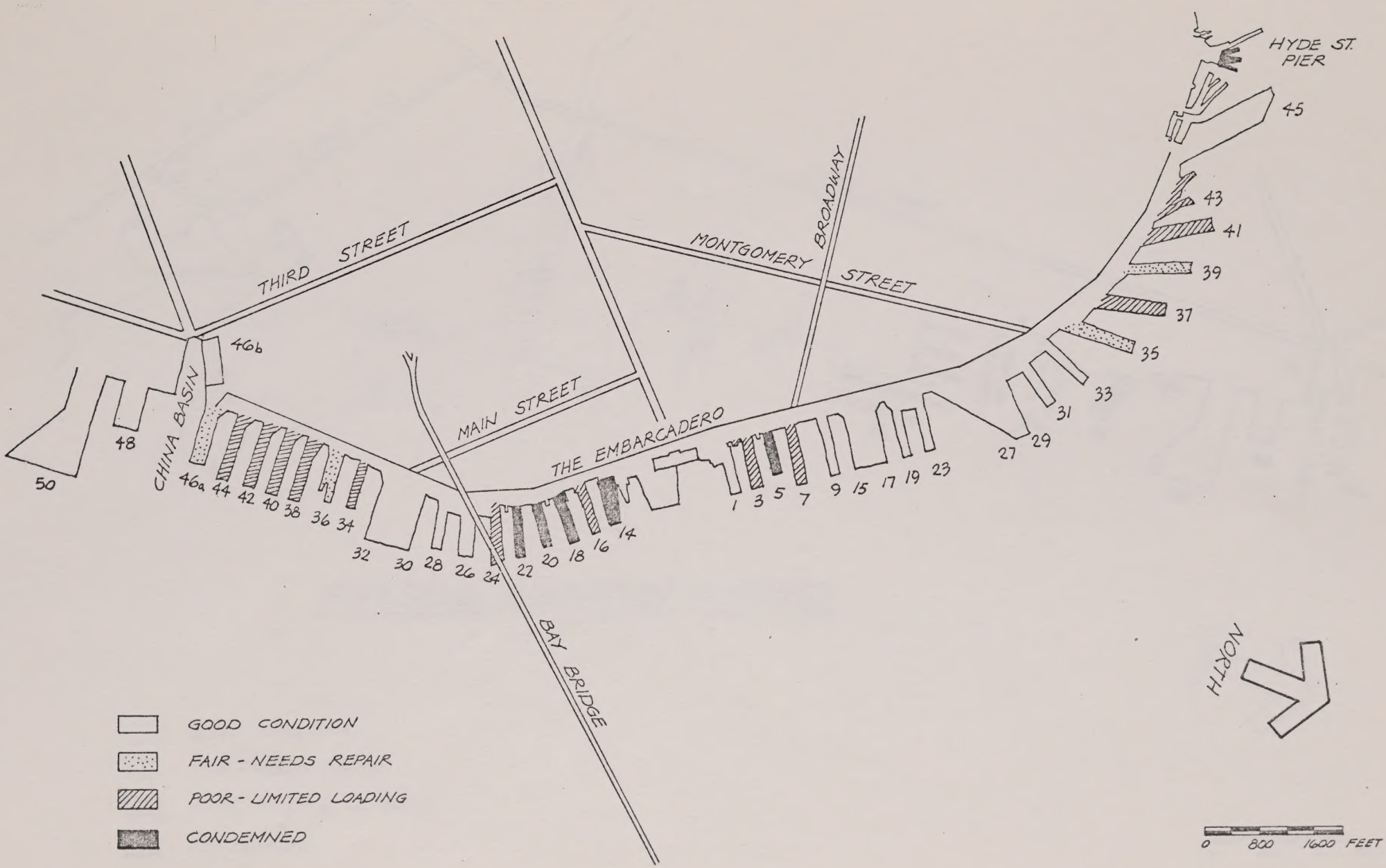
The Embarcadero, a roadway at grade level, runs along the waterfront from China Basin in the south to Pier 45 on the north. From curb to curb it is sixty-six feet wide with two northbound lanes and two southbound lanes. There is a parking lane adjacent to the northbound lanes and a wide median strip in the center of The Embarcadero, under the Embarcadero Freeway and in front of the Ferry Building.

The Belt Line railroad tracks, owned and operated by Port Line Railroad, Inc., serve the waterfront from Pier 96 to the Presidio, and freight is hauled the length of the tracks. There are four tracks along most of the main line, narrowing to one track along one section in front of the Ferry Building. There are spur lines to all of the piers although many are either not in working condition or out of service because the pier is no longer in maritime use.

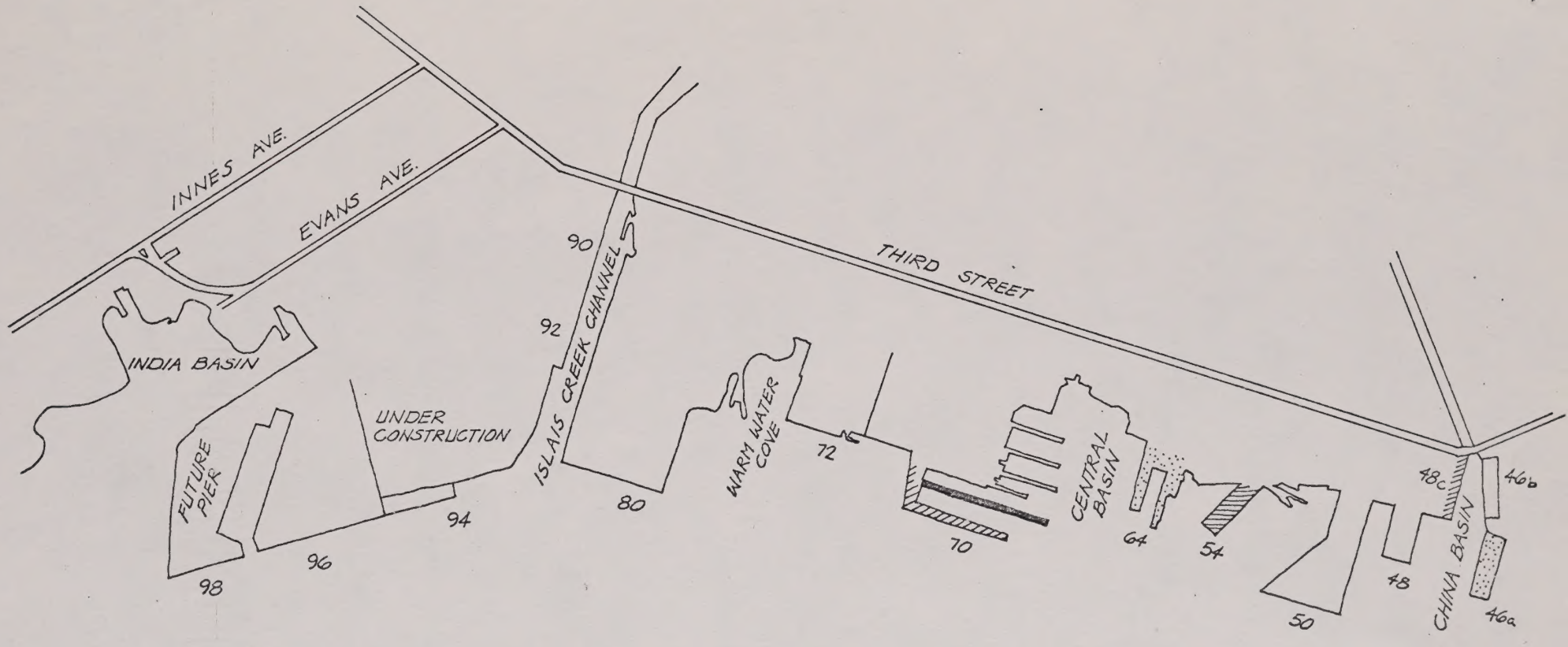
Port Line Railroad maintains all of the Belt Line tracks but operates only north of China Basin, from Pier 46 to the Presidio. It runs one train of from twenty to thirty cars five days a week, beginning at 6 a.m. and ending by 2 p.m. Port Line Railroad is currently serving Piers 23, 27, 45 and 46 as well as about six non-maritime customers, including Bauer-Schweitzer Malting Company and Hills Brothers Coffee. Approximately 60% of Port Line Railroad business is north of the Bay Bridge and 40% south of the Bay Bridge.

Service south of China Basin is provided by three companies: Santa Fe, Western Pacific and Southern Pacific. The Santa Fe Railroad runs

PHYSICAL CONDITION OF PIERS



SOURCE: PORT OF SAN FRANCISCO



PHYSICAL CONDITION OF PIERS

NORTH

GOOD CONDITION

FAIR - NEEDS REPAIR

POOR - LIMITED LOADING

CONDEMNED

0 800 1600 FEET

SOURCE: PORT OF SAN FRANCISCO

three barge trips every twelve hours between San Francisco and Richmond. The barge carries up to eleven cars and docks near Pier 48. Most of Santa Fe Railroad freight business in San Francisco is not related to the Port although Piers 48 and 50 are served by Santa Fe. Western Pacific Railroad serves Piers 80, 90 and 92 as well as numerous non-Port customers in the same general area. Out of about 36 cars run daily, an average of two to three cars serve the piers. Additional service to these piers can be handled when necessary. Southern Pacific Railroad serves Pier 96, as well as Pier 92 on a track shared with Western Pacific. When Pier 94 goes into operation it will be served by either Southern Pacific, Western Pacific or perhaps both.

3. Biological Features.

(a) Marine Organisms.

Plankton. The tiny free-floating microscopic organisms called plankton form the most basic link in the food chain of the San Francisco Bay complex and are present in all parts of the Bay. The photosynthetic plankton (phytoplankton) are an important part of the primary productivity in Bay waters, while the other forms of plankton serve to convert and transport some of the energy made available by the phytoplankton and other producers of the Bay. Bay populations of plankton show a strong seasonal variation in density and diversity partly because they are able to grow rapidly and float freely between areas of local abundance and scarcity of nutrients. Minimum concentrations of plankton occur in October and November while maximum concentrations occur in March and April.

Benthic Organisms. More than 150 species of benthic (bottom-dwelling) organisms have been identified in the central and north Bay areas, with the greatest number of organisms comprising about 30 species. Most benthic animals, like the plankton, exhibit seasonal variation in number, with the maximum numbers occuring from July to September. The type of sediment is a major factor affecting the density and distribution of benthic animals. In general, sediments with lower sand content, and high nitrogen and carbon content, support larger populations. The diversity content, however, increases with sand content and water depth. Studies have also shown that density, but not diversity, is reduced in frequently dredged deep water channels in the Bay. The varied sediments along the San Francisco waterfront in the area of the Special Area Plan can, therefore, be assumed to support a relatively diverse population of benthic animals, ranging from the sandier sediments of the Hyde Street Pier - North Beach area to the finer sediments along the China Basin to Islais Creek area.

Shellfish. Shellfish, including crabs, oysters, clams, mussels and shrimp, are all found in San Francisco Bay, although most no longer support the large commercial fisheries that used to thrive in the Bay. This is particularly true of the crab fishery, once the symbol of Fisherman's Wharf.

Dungeness crabs (Cancer magister) are presently found in year-round abundance throughout the central and north Bay areas, but these crabs are immature and never of legal size. In fact, there has not been a commercial crab fishery within the Bay for perhaps thirty years or more, and virtually all commercial size crabs are found outside the Golden Gate. Studies by the California Department of Fish and Game have shown the Bay to be a

nursery area where juvenile crabs settle from the larval stage. Tagging studies have verified that the juvenile crabs spend about a year and a half within the Bay and then undertake a seaward migration of 30-45 miles. Migration at this age is felt to be a natural occurence and it is postulated that adult crabs may be unable to tolerate the lower salinity of the Bay. The Department of Fish and Game reports that in 20 years of catching crabs in the Bay, neither a legal size crab nor an egg-bearing female has ever been caught by them.

Native oysters and clams live in almost all the intertidal waters of the Bay, with oysters being particularly abundant in the south Bay. Clams are abundant throughout the Bay and offer great potential for both sport and commercial fisheries. At present, however, clams are rarely taken commercially and oyster culture has been abandoned, due largely to contamination of the shellfish beds by water pollution and industrial waste disposal. Such pollution continues to make 90 percent of the abundant Bay shellfish unsafe for human consumption, according to the standards of the State Department of Public Health. There are no known important shellfish beds near the Special Area Plan area, but it is probable that one exists near China Basin. In addition, some shellfish, including oysters and mussels, find a habitat on the piles of piers along the San Francisco waterfront. These piles support other organisms, including barnacles and algae, as well.

Three species of Bay shrimp (Crago franciscorum, C. nigricauda, and C. nigromaculata) are mingled together throughout the Bay. These detritus feeders form the basic diet of most fish in the Bay and they have been found in the stomachs of almost all fish large enough to eat them. There is a commercial fishery for these species as bait, primarily in San Pablo and Suisun Bays, and there was formerly a major shrimp netting area along the San Francisco waterfront, south of the Bay Bridge. Shrimp are no longer harvested along the San Francisco waterfront, although the resource may still exist in this area.

Fish. Anadromous fish are the most important group of fishes found in the San Francisco Bay System. These fish generally require an ocean environment to mature and enter fresh water only to reproduce. They include the striped bass (an introduced species), king salmon, sturgeon, steelhead trout, and shad. The salmon is an important commercial species and all support a vast recreational use.

Upstream migrating adult salmon and steelhead pass through most of the Bay north of the Golden Gate, increasingly markedly in number at peak migration periods. The adults do not feed in the Bay as they move upstream, but the young do feed as they migrate back to the ocean. Salmon is of great importance to the commercial fishermen based at Fisherman's Wharf but most commercial salmon fishing takes place in the ocean rather than in the Bay itself. All steelhead fishing takes place in the freshwater of the inland rivers and creeks. Much less is known about the habits and requirements of other important anadromous fish in the Bay, but it is certain that water quality in the Bay is of critical importance to the vulnerable young fish as they migrate into the Bay and also to the adult fish migrating under the stress of their pre- or post-reproductive state.

Another group of fishes in the Bay is the pelagic (open water) bait and forage fishes. This group includes sardines, anchovies, herring and smelt. All but the sardines support moderate commercial fisheries.

Many of the important San Francisco commercial fisheries are based on the bottom-dwelling fishes such as starry flounder, English sole, sandab, butterfish, halibut and turbot. A small commercial fishery for other bottom fishes, the shark and ray, exists just offshore between the Bay Bridge and Hunter's Point. In addition, an extensive recreational fishery for salt-water perch exists along beaches and near wharves and pilings on the San Francisco waterfront.

The annual catch of all commercial species at Fisherman's Wharf has increased from 3,682,704 pounds in 1968 to 8,907,965 pounds in 1973, although the crab catch has declined during that period.

(b) Birds. About 75 species of waterbirds are residents or regular visitors of some portion of the San Francisco Bay Complex. Most of the waterbird use occurs in the 70 percent of the Bay where the water is less than 18 feet deep. The mudflats, salt marshes, and shoals of these shallow water areas provide an abundance of the invertebrates and vegetation that form the diet of many waterbirds.

Because the water in the area of the Special Area Plan is generally deeper than 18 feet and because the shoreline offers little natural vegetation and few nesting sites, the waterfront cannot be considered an important shoreline or intertidal waterbird habitat. However, the waterfront does offer an important open water habitat which is used by ducks, cormorants, loons, geese, pelicans and seagulls for resting and feeding. The piers are also used by these birds for resting areas and sometimes for shelter.

Well over 100 species of wading birds, song birds, hawks and owls also inhabit the Bay Area. None of these birds are abundant in the Special Area Plan area, nor is the Special Area Plan area a critical habitat for them.

(c) Marine Mammals. Sea lions, seals and porpoises are found in various parts of the Bay, but are not abundant. All are protected by law. California sea lions (Zalophus californianus) frequent the Bay within a mile or two of the Golden Gate and occasionally harbor porpoises (Phocoena phocoena) are seen in the central Bay between the Golden Gate and Treasure Island. Several groups of harbor seals (Phoca vitulina) are residents of both the north and south Bay Areas. None of these species depend on the San Francisco waterfront as a habitat.

(d) Terrestrial Vegetation. Little of the natural vegetation of the early San Francisco waterfront survived the intense urban and maritime uses that developed there. The native grasses, brush thickets and salt marshes of the sandy shores have, for the most part, been replaced by earth fill covered with paving materials and buildings, and by wood or concrete pier structures. Some small landscaped areas can be found along the waterfront and some of the abandoned piers support small stands of grasses and wildflowers.

(e) Rare and Endangered Species. There are no known populations of rare or endangered species in the area covered by the Special Area Plan. Neither are there any rare or endangered species known to depend on the San Francisco waterfront as a crucial part of their habitat.

4. Socio-Economic Features.

(a) Present Land Use. The Special Area Plan is addressed primarily to piers and seawall lots along the San Francisco waterfront within the jurisdiction of the Port of San Francisco.

Piers. Use of the piers on the San Francisco waterfront ranges from active maritime use to non-use. North of China Basin, more than half of the finger piers are no longer used for ship loading and off-loading and a number of piers are no longer suitable for any use. Maritime activity does, nevertheless, continue on some portions of the northern waterfront. Piers 9-33 are in active maritime use, serving break-bulk cargo ships, and Pier 35 is in use as a passenger ship terminal, serving approximately 90 passenger ships and 60,000 passengers in 1974. Pier 35 is generally felt to be unsatisfactory, both from aesthetic and functional viewpoints; plans for upgrading the passenger terminal are currently under discussion.

South of the Bay Bridge, Piers 26-32 and Piers 46a and b continue in active use as cargo-handling facilities. South of China Basin, almost all piers are in maritime use but their use varies greatly in degree and kind. Some house cargo-related tenants but are not directly involved in cargo-handling, while others, including Piers 80, 94 (under construction) and 96, are large terminal facilities designed to meet the needs of LASH (lighter-aboard-ship) and other containerized vessels. LASH ships are loaded and unloaded by means of floating lighters (barges) on which containers are carried. Such ships can discharge and load cargo without docking. Piers 90 and 92 along Islais Creek are also in active maritime use, handling grain and liquid bulk cargoes.

Those piers which are not in maritime use are situated north of China Basin and are concentrated on the City's northern waterfront. Maritime use of Piers 34-44, between the Bay Bridge and China Basin, has been largely discontinued by the Port although some marginal use remains and there is some question as to when and if these piers will be made available for new non-maritime development. Of the ten piers flanking the Ferry Building, from the Bay Bridge through Pier 7, none remain in maritime use, although eight of them continue to serve tenants not directly involved in cargo-handling. The present land use of these piers is clearly considered by the Port to be interim, pending non-maritime development. Piers 37, 39 and 41 are in use by primarily non-maritime tenants although operations related to water taxis, tugs, ferries and tour boats are also accommodated in this pier area. The City's Northern Waterfront Plan designates the area of Piers 37-41 as the site of a major new park. Piers 43 and 43 1/2 are used primarily by recreational tour boats and ferries along with some restaurant use, while Pier 45, now used for storage, is currently the subject of non-maritime development proposals. The west side of the Hyde Street Pier is the site of the State Maritime Historic Park, while the east side of the Pier is in a serious state of disrepair and not currently in use.

Inland Parcels. The area covered by the Special Area Plan includes a number of inland parcels within the jurisdiction of the Port of San Francisco. Those seawall lots south of China Basin are generally in use by various kinds of maritime-support facilities or cargo-related tenants, while a number of triangular parcels north of China Basin are either currently or potentially available for development. Some recent office development has occurred on seawall lots landward of The Embarcadero in the area between Piers 9 and 41, and further development is slated for this area. The seawall lots between the Bay Bridge and China Basin (329-336) are presently in very marginal use and there are no current plans for development of this area.

Adjacent Inland Areas. The linear extent of the Special Area Plan lies adjacent to highly varied inland urban environments. The northernmost part of the plan area runs along the bayward margin of the intensely-used, tourist-oriented Fisherman's Wharf area. From there, the plan area passes below Telegraph Hill, a section of the City currently undergoing considerable office and residential development, to the Ferry Building area, just bayward of the downtown financial district and new south-of-Market office development. South of the Bay Bridge, the waterfront lies adjacent to a marginally-used railroad and warehousing section, an industrial area and then, furthest south, the residential Hunter's Point section of San Francisco.

(b) Public Use. Although San Francisco is traditionally a water-oriented city with extensive Bay frontage, most of this bayfront is not accessible to public use. With the exception of the Golden Gate National Recreation Area, San Francisco's waterfront offers little in the way of public access and, within the plan area itself, Fisherman's Wharf is the only segment used intensively by the public. Large sections of the waterfront are blocked to both physical and visual access by continuous pier structures along The Embarcadero, while in other areas rotting piers are guarded by barbed wire fences. The cargo operations of the southern waterfront, fascinating to watch, are also largely hidden from view and residents of areas such as Potrero Hill and Hunter's Point have few nearby waterfront recreation opportunities on the southern waterfront. Nevertheless, the Bay attracts people of all ages and socio-economic levels and people find and use those few places where close contact with the Bay, whether for fishing, viewing, or strolling, is possible.

(c) Circulation and Parking.

Vehicle Circulation. Vehicle access to and along the San Francisco waterfront is provided by a combination of surface streets and freeways. The surface streets include The Embarcadero, serving the northern waterfront, and Third Street, Cargo Way, Hunter's Point Boulevard and Innes Avenue serving the southern waterfront.

The Embarcadero runs along the waterfront from China Basin to Fisherman's Wharf at which point much of the traffic moves to Jefferson and Beach Streets. The Embarcadero therefore provides continuous access to waterfront destinations along this part of the waterfront. Aside from the Ferry Building, Fisherman's Wharf and those piers still in maritime use, however, there are few generators of traffic along the waterfront itself and only a small percentage of the total vehicles using The Embarcadero are trucks involved in maritime activity. In fact, the heaviest use of The

Embarcadero occurs during the morning and evening commute hours when it is used as a connection to or from the Bay Bridge or James Lick Freeway and as a route to or from the northwestern portions of the City. The Embarcadero therefore serves as part of a regional commute system in addition to being a waterfront access route. The Embarcadero carries approximately 15,000 cars per day with about 2,000 cars at the peak hour. The Embarcadero is not used at its full capacity.

Vehicle access along the southern waterfront is not continuous as it is along the northern waterfront. Third Street is the primary route between China Basin and Islais Creek while Cargo Way is the principle access to Piers 94 and 96 south of Islais Creek. Hunter's Point Boulevard and Innes Avenue travel close to the waterfront in the vicinity of India Basin. The surface streets along the southern waterfront serve local traffic as well as that generated by marine terminal activities and it is anticipated that use of these routes may increase substantially with completion of major container facilities now under construction.

A number of freeways play a role in providing access to or along the waterfront. The Bay Bridge brings traffic from the East Bay, some of which exits to travel along the waterfront on the Embarcadero Freeway or the surface Embarcadero. The James Lick Freeway carries vehicles from the Peninsula and from other parts of San Francisco, some of which also use these waterfront routes for access to downtown. I-280 is a lightly-used Peninsula route which was to have been connected to the Embarcadero Freeway. It now ends at Third Street, slightly north of China Basin, and is used by some as a means of access to the central waterfront. An inland connection of I-280 to the Bay Bridge is now in the planning stage.

The Embarcadero Freeway is the only freeway that travels along the waterfront itself, although its major function is to distribute San Francisco, East Bay and Peninsula traffic to the downtown financial district north of Market. The Clay/Washington and Broadway ramps distribute traffic to inland, downtown streets rather than to the surface Embarcadero so that service of waterfront destinations is only a minor function of the Embarcadero Freeway. While the freeway was originally intended as part of a connection between the Bay Bridge and the Golden Gate Bridge, it has actually become a link in a regional commute system with its major destination being downtown San Francisco. The Embarcadero Freeway carries approximately 60,000 cars per day with the heaviest traffic occurring at the morning and evening rush hours, from 7-9 a.m. and 4-6 p.m. At the peak hour, which is generally in the afternoon, the Embarcadero Freeway carries about 5,800 cars. Under normal conditions, the Embarcadero Freeway flows smoothly during peak periods and back-ups are generally caused by congestion at the entrance to the Bay Bridge rather than by lack of vehicle capacity of the freeway itself.

Parking. Parking is rather limited along the northern waterfront and is concentrated around Fisherman's Wharf and the Ferry Building where public activity is also concentrated. There is a small amount of parking in front of the Ferry Building and some metered spaces under the Embarcadero Freeway. Also in the vicinity of the Ferry Building, Pier 7 is operates as a commercial parking lot. At Fisherman's Wharf, some parking is available on

Pier 43, while the remaining parking in this area is located inland rather than over the water on piers. There is also some degree of parking for maritime workers on the northern waterfront and parking on the southern waterfront is adequate for the maritime and industrial uses located there.

Public Transit. The San Francisco waterfront is served by San Francisco Municipal Railway bus service both along the waterfront and from inland portions of the City to the waterfront. The Embarcadero, however, is currently served by fragments of four Muni lines rather than by a single, unified transit service. The Ferry Building serves as the terminus for other modes of public transit, as does the Fisherman's Wharf area. Two cable car lines lead to Fisherman's Wharf and this area is served, as well, by ferry service from Tiburon during the summer and on weekends. The Ferry Building serves as a meeting point for numerous forms of public transit including the BART Embarcadero station to be open in the spring, and commuter ferry service from Tiburon, Sausalito and, in the future, Larkspur. The new underground Muni streetcar lines, on which work is currently progressing, will also terminate at the foot of Market Street. The terminus of the California Street cable car is also close to the waterfront at this point.

Pedestrian and Bicycle Circulation. With the exception of the Fisherman's Wharf area, provision for pedestrian movement is now generally lacking along the portion of the San Francisco waterfront covered by the Special Area Plan. While it is possible to walk along the Embarcadero, there is no marked separation of pedestrian and vehicle rights-of-way to assure pedestrian safety. Neither is there a separate right-of-way nor a marked path for bicycles along the waterfront.

(d) Current Economic Situation. The seawall from the foot of Hyde Street to China Basin was completed in 1887 and 800 acres of land in what is now downtown San Francisco were then filled behind the wall. Construction of finger piers along the northern waterfront began and between 1895 and 1936, 38 finger piers were built. Some pier construction was also taking place south of China Basin, and Pier 50, Mission Rock Terminal, was completed in 1950. San Francisco was a major west coast port with a thriving maritime industry, but changes in shipping technology in the last 10 to 15 years have led to a decline in cargo-handling at the Port of San Francisco.

New and highly mechanized methods of loading and unloading ships began to take hold in the early- to mid-1960's as new ships were designed and built specifically to carry cargo enclosed in large containers. In the last decade, containerization has become the most efficient means of shipping most general cargo, with large back-up areas and good land transportation connections being prerequisite to the effective functioning of a container terminal. The handling of containerized cargoes requires a facility much larger than any of the finger piers of San Francisco's northern waterfront, and containerization thus hastened the obsolescence of small finger piers no longer needed to service break-bulk cargo ships either.

The Port of Oakland began building container facilities in the early 1960's and has steadily advanced as a general cargo port. The Port of San Francisco responded to containerization a number of years later, embarking

on a program of expansion and modernization in the late 1960's and early 1970's with the construction of LASH and other container facilities on the southern waterfront. Despite its program of expansion and modernization, the amount of general cargo handled at the Port of San Francisco has declined in recent years and a number of major shipping companies have moved their operations to Oakland.

The current economic situation along the waterfront, then, is closely tied to a change in shipping technology and the subsequent decline of San Francisco as the Bay's major center for general cargo activities. Numerous finger piers are still in active and profitable break-bulk service and will so remain into the foreseeable future. Numerous others, however, are in marginal economic use or non-use pending their utilization for major non-maritime development. The non-maritime piers on the city's northern waterfront now derive economic value from their development potential, and land values along the waterfront are high due both to the proximity to downtown and the aesthetic advantages of a waterfront location. The seawall lots along The Embarcadero also have considerable economic value; some have already been developed for office use, while others are now vacant but potentially developable. Existing commercial and restaurant use at Fisherman's Wharf is the major current source of non-maritime revenue for the Port.

Commercial fishing activity based at Fisherman's Wharf has also declined in the last fifteen to twenty years. Facilities for commercial fishermen have so deteriorated that only 35 active commercial fishing boats and a number of party boats now remain. Despite this decline in the number of fishermen and in the crab fishery, fish landings at San Francisco have more than doubled in the last five years from 3,682,704 pounds in 1968 to 8,907,965 pounds in 1973. Fishing and fish processing thus remain viable economic activities with a potential for growth on the San Francisco waterfront.

(e) Jurisdiction. That portion of the San Francisco waterfront covered by the Special Area Plan falls under the jurisdiction of a number of agencies.

City and County of San Francisco.

Port of San Francisco. Since the process leading to preparation of the Special Area Plan gave specific consideration to the use of Port properties designated as available for non-maritime use, the plan area is almost wholly within Port jurisdiction. That jurisdiction includes all of the piers along the waterfront and certain seawall lots. The Port holds its tidelands, subject to the public trust for commerce, navigation and fisheries, under the Burton Act (Statutes of 1968, Chapter 1333). Any development of Port properties, whether maritime or non-maritime, is subject to the proprietary jurisdiction of the Port and must be approved by the Port Commission before official action can be taken by other agencies.

City Planning Commission. The area covered by the Special Area Plan falls wholly within the City and County of San Francisco which has established height and bulk regulations along the waterfront and designated most of the northern waterfront as a Special Use District. Any proposal for major waterfront development must be submitted to the City Planning Commission for discretionary review and approval before development may commence.

Bay Conservation and Development Commission. The Bay Conservation and Development Commission (BCDC) exercises jurisdiction over both the shoreline band and the Bay proper, although the extent of BCDC jurisdiction is not the same in each case:

Shoreline Band. New development on existing piers, or behind the seawall within 100 feet of the shoreline, is subject to BCDC's 100-foot shoreline band jurisdiction under which maximum feasible public access to the Bay is required in conjunction with any new development.

Bay. BCDC exercises more control over projects in the Bay than projects along the shoreline, including control over the amount, location, design and use of any proposed fill in the Bay. Such projects must satisfy the criteria of the McAteer-Petris Act (the BCDC law) and the San Francisco Bay Plan. Under the Bay Plan, filling on publicly held lands, such as those of the Port of San Francisco, was not permissible for commercial recreation uses. However, after lengthy public hearings, the Commission adopted Amendment #1-71 to the Bay Plan in order to facilitate the removal of deteriorated piers by allowing some degree of commercial recreation on replacement fill. Amendment #1-71 provides that replacement platforms may not exceed in area the piers removed from the Bay and that an area equivalent to only one-half of the pier area removed may be developed for commercial recreation. The remainder must be either open space or open water. Amendment #1-71 also requires that the replacement of existing piers for commercial recreation uses must be in accordance with an adopted special area plan. Replacement fill falls within BCDC's Bay jurisdiction.

Other Agencies. The three agencies described above exercise primary jurisdiction along the portion of the San Francisco waterfront treated in the proposed Special Area Plan. Any development in the plan area may fall into other jurisdictions as well. Those additional agencies whose approval might be required for any given project are as follows:

Federal Agencies.

U. S. Army Corps of Engineers
United States Coast Guard
U. S. Environmental Protection Agency

State-Regional Agencies.

Regional Water Quality Control Board
Bay Area Air Pollution Control District
State Lands Commission

B. Environmental Significance. While implementation of the Special Area Plan is not expected to have a very substantial impact on the natural environment, either physical or biological, adoption of the plan could, nevertheless, be significant in terms of its possible impact on the character of the San Francisco waterfront, depending on the type and intensity of uses developed. The Special Area Plan covers a large linear area and, if it is

adopted, substantial commercial recreation development could occur in portions of that area. Therefore, to the degree that it would permit revenue-producing uses to be located on replacement fill, the Special Area Plan would be growth-inducing. Adoption of the Special Area Plan would also provide substantial public benefit in terms of the amount of open space and public access to the Bay that could be provided. Thus, development of the waterfront could have both positive and negative implications for the City's land use pattern, for vehicle circulation and parking, for public use of the waterfront and for the economic status of the Port of San Francisco.

III. ENVIRONMENTAL IMPACT

This section will discuss the environmental impact of Special Area Plan policies and recommendations. However, in some cases the Special Area Plan proposes that existing uses be maintained and continued. In these cases, no change is proposed and thus there are no significant impacts to be discussed. Therefore, the following will not be covered in this section:

Piers 9-35. Based on the Port's projection that Piers 9-35 will continue in maritime use into the foreseeable future, and recognizing the desirability of maintaining some maritime activity on the northern waterfront, the plan endorses continued maritime use of these piers and proposes no alternative use. This section will not examine the impact of this recommendation since the plan proposes no change from the currently existing situation. Any environmental impacts associated with the existing situation may be expected to continue.

Maritime Use South of China Basin. The plan assumes continued maritime use of those facilities currently in maritime use and thus proposes no change from the existing situation. Since the plan proposes no change in existing use, the impact of continuing an existing situation will not be considered in this section. As with Piers 9-35, any impacts associated with the current maritime use may be expected to continue.

A. Environmental Impact of the Proposed Project.

1. Impacts on Physical Environment.

Geologic Features. Bay mud and soils may be displaced by new piles driven to support permitted development on replacement piers along the San Francisco waterfront. That is, soil displaced by driving piles may cause a lateral movement in the surrounding mud that can bend and weaken existing piles or distort and crack undergound structures. The severity of this impact, and the extent of the area affected, will depend on a number of factors, including the size, number and spacing of piles, the characteristics of the underlying soils, and the proximity of existing pile-supported buildings or underground structures such as the BART tube. The size, number and spacing of piles varies depending on site geology and on the type of structure to be supported. For example, single-story or two-story wood frame development such as might take place on the Hyde Street Pier would require much less support than would multi-story hotel development such as might occur in the vicinity of the Ferry Building. Therefore, depending on the kind of support needed, piles could be either wood, steel, or pre-cast concrete and could be up to 20" square. The potential impact of mud displacement should be evaluated on a case-by-case basis. If it is significant, the impact can be minimized by pre-drilling or other construction and design techniques.

Bay Currents. Implementation of the Special Area Plan will have a localized impact on Bay currents resulting from the placement of new piles and from possible breakwater construction. Currents flowing around piles may

be decreased somewhat and allow sediments to be deposited, causing a "shadow" on the down-current side of the pile. Similarly, a breakwater, whether at Fisherman's Wharf or as may be necessary for a permitted marina, will alter local currents and perhaps increase sedimentation, but the extent of the impact would depend on the type and placement of the breakwater. The potential effect of placing new piles or any new breakwater should be analyzed on a project-by-project basis.

Water Quality. While implementation of the Special Area Plan is not expected to have a significant adverse impact on water quality along the San Francisco waterfront as long as adequate sewage treatment is provided, some short-term and localized effects may occur.

First, any work in the Bay, whether pile-driving, dredging, if necessary, or construction on new or existing piers, could have some effect on water quality, particularly during the period of construction. Dredging or other work impinging on the Bay bottom might stir up sediments and result in a short-term increase in turbidity and the possible resuspension of contaminated debris around the construction site.

Second, the Special Area Plan indicates that a breakwater should be permitted between the Hyde Street Pier and Pier 45 if it will protect commercial fishing boats from damage caused by wave action and significantly enhance the Fish Alley area as a center for commercial fishing activities. If a breakwater is built in this location, the impact on water quality within the boat basin will depend on the design of the breakwater and on what other measures are taken to assure the quality of the water. The breakwater could range from a solid jetty design that would seriously reduce water circulation and flushing action, to a baffled design that would preserve much of the existing water circulation. Any reduction in water circulation within the boat basin, however, would impair water quality. A substantial increase in the number of fishing boats moored in Fish Alley could also result in a serious degradation of water quality if adequate provision is not made for sewage holding tanks and pump-out facilities.

Third, a marina could be permitted in any location along the San Francisco waterfront and the Special Area Plan specifically notes India Basin, Central Basin, the vicinity of Piers 34-44 and the Ferry Building area as potential sites for small-boat marinas. A marina may, in itself, cause some local reduction in water circulation and a breakwater, if required, could further reduce the natural flushing action of the Bay. This would be particularly serious, and could create a health hazard, if a marina reduced water circulation near a bypass outfall where raw sewage flows into the Bay on rainy days. Such outfalls exist in the vicinity of Piers 34-44, at Central Basin and India Basin, and at numerous other locations along the waterfront. Although these bypass outfalls will eventually be eliminated as the City's Wastewater Master Plan is implemented, the existing condition is likely to persist until some time in the 1980's. Thus, planning agencies and developers should be aware of the location of Bay outfall pipes and proposed retention basins. The proposed marina at India Basin is of particular concern since the area is currently subject to thermal effluent (warm water outflow) from the PG &E plant and leachate from dumping at the site of future Pier 98, in addition to raw sewage flows from

bypass outfalls. Any restriction of water circulation in this vicinity could result in water quality degradation and algae problems. In addition, a marina in any location may adversely affect local water quality if adequate provision is not made for sewage holding tanks and pump-out facilities.

Finally, implementation of the Special Area Plan may involve substantial commercial recreation development. Such development will generate wastewater and will have to be connected to the city's sewer system. Depending on the character of new development, there could be an increase in combined run-off and sanitary flow that would have to be dealt with. This increase in sewage load cannot be projected until specific development is proposed but at that time, the adequacy of existing and proposed treatment plants should be assessed. In general, it is anticipated that commercial development permitted by the Special Area Plan will not have a significant adverse impact on the water quality of the Bay as long as the city's waste treatment system can adequately handle the increased flow. It may, however, still be possible for leaky private sewers located underneath pier development to pollute the Bay.

Water Surface Area. Bay Plan Amendment #1-71 requires that replacement fill cover less water surface area than the piers being removed, even if only slightly less, and the provisions of the Special Area Plan are consistent with this requirement. Therefore, the amount of water surface area covered by pile-supported platforms will, at the least, be marginally reduced as a result of the implementation of the Special Area Plan. Depending on the nature and size of projects built, there could conceivably be a more substantial increase in water surface area resulting from the removal of unused pier area. Marinas and breakwaters, if constructed, would constitute some degree of additional fill.

Air Quality. Considerable new development for commercial recreation could be permitted under the provisions of the Special Area Plan, in addition to substantial areas of public recreation and open space. Because this development is intended to attract large numbers of people to the waterfront, it will create additional travel demand to and along the waterfront. This new travel will indirectly affect air quality, as would any new development, because of increased vehicle emissions associated with additional traffic.

The precise amount that traffic and air pollution would actually increase cannot be determined at this stage because the Special Area Plan necessarily sets only general guidelines for development. The number of increased trips to the waterfront, and the degree to which these trips are made by automobile will depend on the nature and scale of development that actually occurs. Other indeterminate factors that will ultimately affect the air pollution generated by new development will be the length of the trip taken and the amount and location of parking. It is clear, however, that air quality will be adversely affected by some increase in traffic and vehicle emissions.

Another variable in determining the effects of implementing the Special Area Plan on air quality is the manner in which the increased travel demand is to be accommodated. Under the Special Area Plan, the additional travel demand is to be accommodated on a new circulation system, which includes the removal of the Embarcadero Freeway and replacement with a new roadway and public transit, in accordance with the design concept outlined in the Citv's report, summarized on pages 2 and 3 of this report.

According to the City's report, and to staff representatives of the agencies involved in the study, the proposed roadway replacement facility is expected, under normal conditions, to accommodate the current combined peak flow of the Embarcadero Freeway and the surface Embarcadero without a significant increase in traffic congestion, assuming that additional peak travel demand will be accommodated on new public transit, also proposed as part of the transportation system. It is further anticipated that additional traffic generated by waterfront development proposed under the plan can be accommodated on the new Embarcadero roadway without creating a congested traffic situation that would further worsen air quality. Most of the trips generated by the type of development permitted in the Special Area Plan will be recreational, and recreational trips generally do not occur during the peak commute periods. Thus, the proposed replacement facility, designed to accommodate peak traffic flows, will easily accommodate some additional traffic in off-peak periods and weekends.

However, while no congestion is anticipated, the average speed of traffic along the replacement facility is expected to be somewhat lower due both to the nature of the new roadway and to various traffic control measures (e.g., speed limits, signalization, etc.). This decrease in speed will have an effect on air quality. According to the staff of the Bay Area Air Pollution Control District, a lower average speed will result in increased emissions of carbon monoxide and hydrocarbons, but decreased emissions of oxides of nitrogen which, along with hydrocarbons, are important in the formation of smog. This increase in emissions of carbon monoxide and hydrocarbons, however, would not be highly significant unless traffic were flowing at an average speed of 10-25 miles per hour, the most critical range in terms of vehicle emissions. Such would not be the case on the replacement roadway, since a relatively free flow of traffic at an average speed of 35 miles per hour during most of the day is anticipated.

A final and highly significant factor must be considered in analyzing the impact of the Special Area Plan as a whole on air quality. That is, the plan emphasizes the development of new public transit, and, in particular, proposes a rail transit system along The Embarcadero as part of the Embarcadero Freeway replacement. The report of the City Planning Department also considers a new transit route along the waterfront as an integral part of the proposed transportation system for the area. Some of the existing trips along the waterfront, as well as a substantial number of recreational trips, could be accommodated by a new transit system along the waterfront, particularly if inter-connections between different transit lines were facilitated by such a route. The Special Area Plan policies minimizing parking and encouraging pedestrian-oriented development would reinforce the attractiveness of such a route. According to the staff of the Bay Area Air Pollution Control District, the provision of such a waterfront transit system, as called for in the Special Area Plan, could significantly reduce air pollution.

In summary, air pollution is likely to be somewhat increased by traffic associated with new waterfront development permitted under the provisions of the Special Area Plan. A further adverse impact could result from the lower traffic speeds associated with accommodating existing levels of traffic on a new surface and subsurface roadway. The proposed roadway should handle the new recreational traffic without congestion in off-peak periods and, thus, accommodating additional traffic on the proposed facility

should not significantly aggravate the air quality situation. And the proposed waterfront transit system could be significant in reducing vehicle use and, therefore, air pollution as well. In fact, provision of the proposed replacement roadway and public transit to handle future travel demand may significantly limit future increases in air pollution. That is, the proposed system, in its emphasis on public transit, may reduce increases in automobile traffic compared to handling all future traffic on the existing freeway/roadway system.

Additionally, implementation of the Special Area Plan will result in a local, short-term degradation of air quality during any construction or demolition. The major adverse impact will result from dust and the emissions of construction equipment, particularly pile-drivers. Any degradation of air quality, whether short-term or long-term, can also have a regional effect in that pollutants emitted in San Francisco are often carried to other parts of the Bay by the prevailing winds.

Noise. Since the major source of noise along the waterfront is traffic, the impact of the Special Area Plan on noise is closely related to its impact on traffic. Waterfront development on the northern waterfront will result in some increase in vehicle traffic but this will not necessarily increase the ambient noise level since it is proposed that this new traffic, plus a portion of the existing traffic, be shifted to a new surface and subsurface roadway.

The perception of noise is related to line-of-sight, with noise being greatest when the receptor can see the source of the noise. Therefore, according to a noise expert at CalTrans, the pedestrian would be subjected to the highest noise level from a surface roadway where proximity to the source is greatest, and to the lowest noise level from a depressed roadway where traffic is not within the line of sight of a pedestrian at grade level. Therefore, a lower ambient noise level can be expected along those portions of The Embarcadero where the double-decked elevated freeway is replaced with a depressed roadway and an increase in perceived noise level along portions where surface traffic increases. There would be an increase in ambient noise level during any demolition or construction work.

2. Impacts on Biological Environment.

In general, implementation of the Special Area Plan is not expected to have a major direct adverse impact on any feature of the existing biological environment, although some organisms will be affected to some degree. The most significant impacts on the biological environment are expected to result from pile removal, pile replacement and possible dredging, all of which will affect marine organisms living in the bottom sediments or pilings along the waterfront.

It is possible that the location of marinas on certain portions of the waterfront will result in a need for some dredging, although this has not been determined for any of the potential marina sites. Dredging, if necessary, would result in the removal of any benthic organisms in the dredged area. Certain species of benthic organisms, however, can repopulate the disturbed sediments of a dredged area fairly quickly and eventually, if the area is not further disturbed, the pre-dredged quantity and variety of benthic organisms may be re-established. If an area needs to be dredged frequently in order to maintain the desired depth, the benthic organisms will be repeatedly disrupted and will have less diversity than before dredging took place.

Turbidity resulting from dredging may cause some short-term disturbance to planktonic and fish life within a very localized area and may temporarily inhibit the growth of nearby aquatic plants. In addition, chemical compounds such as heavy metals, pesticides, nutrient salts and many other materials are frequently accumulated in Bay sediments and can become resuspended during dredging operations. The impact of such resuspension may vary from growth stimulation by nutrients to toxicity from poisons. In order to limit any adverse effects of dredging, the sediments in the area to be dredged should be sampled and analyzed to determine the level of these pollutants, and the appropriate method of spoils disposal determined by the Regional Water Quality Control Board.

Implementation of the Special Area Plan will involve the removal and replacement of pilings and pile-supported platforms, actions which will have a limited impact on the biological environment. The removal of existing pilings will result in the loss of the organisms living on them, but such pile-dwelling organisms can quickly re-establish themselves on new pilings. Thus, any loss may be compensated for by the surface area of new piles on which many of the same organisms can grow. The installation of new pilings will result in the loss of the benthic organisms directly under the pile tip, but the loss of benthic organisms will be small. Pile-driving may also result in some localized short-term turbidity, but the creation of a significantly adverse condition is not expected. Finally, the period of removal and replacement of piers will cause some short-term disruption of resting and feeding sites for birds. No other impact on birds is expected as a result of plan implementation.

To the extent that the implementation of the Special Area Plan might have an impact on Bay water quality, it would also have an indirect impact on Bay plankton, shellfish, marine mammals, and fish. For example, deteriorated water quality or oil spills in the vicinity of the San Francisco

Any project on replacement fill in the Ferry Building area would be limited to those uses permitted by the plan, namely, commercial recreation, including restaurants, cafes, hotels/boatels, specialty shops, theaters, galleries, amusements, night clubs, cabarets, marinas and open space. Thus, it is clear that new waterfront development here would not be a continuation of uses in the downtown financial district or the Golden Gateway, both of which are adjacent to the waterfront. Some elements of any new development would, however, benefit existing land uses. In particular, free public open space can be used by local residents and downtown workers, as can restaurants and shops. Other elements of waterfront development, however, might be much less complementary to inland uses, with the relationship becoming most tenuous if a major tourist attraction were created in the Ferry Building area. While such development probably would not interfere with any adjacent inland use, it is questionable whether an integration of new and existing uses would occur. Further, waterfront development might have an impact on other inland areas not adjacent to the waterfront by taking growth and new uses that might otherwise have occurred in those areas.

Commercial recreation development on replacement fill in the area of Piers 34-44, south of the Bay Bridge, is not likely to occur until some development takes place in the adjacent inland area. Commercial recreation development as permitted by the plan, in addition to the recommended residential neighborhood immediately inland, would certainly constitute a marked change in the use and character of this area, which is now in railroad and light industrial use. The concept for this area, as expressed in the Special Area Plan, anticipates a blending of new residential, commercial and office uses with existing viable economic uses, and maximum preservation of attractive older buildings. Such development could provide a needed expansion of in-city housing with direct visual and physical access to the Bay. At the same time, such development of this area would preclude its use for future maritime development.

If implemented, two additional recommendations of the Special Area Plan will have impacts on land use. First, demolition of the Embarcadero Freeway, if accomplished, will remove a visual and perceived physical barrier between the waterfront and the city, thereby making possible a closer relationship between inland uses and the Bay. This will be particularly true if easy pedestrian access across The Embarcadero is provided, as proposed in the report by the City Planning Department, "A Transportation System for the Embarcadero Area." Secondly, the recommended uses for Pier 45, if developed, would add a further intensity of use to the already heavily used Fisherman's Wharf area. As with other development along the waterfront, this would have implications for public use and access, economics, circulation, provision of City services, etc.

The proposed Special Area Plan would not have a marked impact on the primary land uses now existing on the remainder of the waterfront. The plan lends support to the maintenance and enhancement of Fisherman's Wharf for the commercial fishing industry; it calls for the continuation of existing maritime use on the northern and southern waterfronts; and it proposes new park and public access areas which would provide recreational opportunities while not disturbing the primary use of the areas to which they are introduced.

Public Use. Implementation of the Special Area Plan will lead to increased public access and use along the San Francisco waterfront in three different ways:

1. New park areas

2. Public access and open space in conjunction with permitted development

3. Commercial recreation development

The designation of park areas in the Special Area Plan supports the Recreation and Open Space Plan of the City of San Francisco. The Special Area Plan provides that the major use of any replacement fill in the area of Piers 37-41 must be recreation and open space, thereby endorsing the City's planned North Point Park and furthering the creation of a major open space on the northern waterfront. The plan also designates a number of points south of China Basin--namely China Basin Channel, Central Basin, Warm Water Cove, Islais Creek Channel, and India Basin--as shoreline parks or public access areas. Implementation of these provisions of the plan would have a positive effect in providing recreation opportunities for fishing, boating, strolling and viewing Port activities, now lacking on the southern waterfront. These park areas on the southern waterfront are all included in the City's Recreation and Open Space Plan and are scheduled to be acquired and developed by the City when funds become available. Further, the Special Area Plan provides that development of public access at these locations should be required as a condition of new permits for maritime facilities, thus increasing the likelihood of plan implementation in this regard. Any plans for developing these park and access areas should also be coordinated with San Francisco's Department of Public Works to assure compatibility with the City's Wastewater Master Plan.

The Special Area Plan would also enhance public use of the waterfront by requiring the provision of public access and open space in conjunction with any permitted development. Particularly in the area of the Ferry Building, from Piers 7-24, the plan provides that the total pier area devoted to public recreation, open space and public access must equal the pier area devoted to all other non-maritime uses. Thus, while the plan does open the way for commercial recreation development of replacement fill in this area, it also sets very clear parameters for the public space to be included in the required Total Design Plan and thus in the ultimate development. An economic analysis carried out during the planning process indicated that a private developer could economically provide as much as 2/3 of the required open space, with public investment providing the other third. Assuming availability of some public funds, 50% open space in conjunction with development between the Bay Bridge and Pier 7 is probably a realizable benefit of the Special Area Plan. Pedestrian access to open space in the vicinity of the Ferry Building would be enhanced by depressing the new Embarcadero roadway at the foot of Market Street, as proposed in the City's transportation study of the Embarcadero area, which is endorsed in concept in the Special Area Plan. Significant new public access, in conjunction with development, might also be provided on Pier 45 and south of the Bay Bridge to China Basin.

In addition to the opportunities for active recreation, strolling, viewing and sitting along the Bay, the commercial recreation permitted by the Special Area Plan would also increase public use of the San Francisco waterfront.

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The most immediate focus of development activity is likely to be the piers flanking the Ferry Building where almost any new development would increase public use of this presently inaccessible portion of the waterfront. While a number of different types of development could follow from the plan policies, the McAteer-Petris Act, the Bay Plan and the Special Area Plan all require that any such commercial development must be water-oriented and geared toward attracting the public to the waterfront. Thus, any development would attract people to the waterfront, but the character of public use could vary substantially, depending on the uses actually developed. Development might be oriented to the downtown working population and to the resident population of San Francisco and other nearby communities. On the other hand, there is a chance that development might be oriented toward tourist and convention use. In either case, the Special Area Plan encourages full use and enjoyment of the waterfront by all segments of the public by requiring that any commercial recreation on replacement fill be available at a range of price levels.

The character of open space will also be affected by the commercial uses bordering it. The Special Area Plan contains the seeds of more or less favorable development in terms of the variety of public use, and it will be up to the public and agencies involved to assure development that provides maximum opportunities for full public use.

Circulation and Parking. The impact of the Special Area Plan on vehicle circulation and parking will be concentrated on the City's northern waterfront where the most significant commercial recreation development is expected to occur. The plan policies will permit such development on replacement fill in the areas flanking the Ferry Building and between the Bay Bridge and China Basin, with development in the Ferry Building area expected to occur first. The plan's recommended non-maritime use of Pier 45 points to the possibility of substantial new development in the Fisherman's Wharf area, as well.

As this development occurs, destinations along the waterfront will increase in number and travel demand will also increase, both in a linear pattern along the waterfront and to the waterfront from inland locations. At least a portion of these new trips will be taken in private vehicles, thus leading to additional traffic flow in the waterfront area. The degree to which new waterfront development will increase traffic, however, is dependent on a number of factors. Within the provisions of the Special Area Plan, development could take various forms and the amount of travel demand generated will be related to the specific uses proposed and to the scale of development.

The policies and recommendations in the Special Area Plan regarding public transit and parking should serve to moderate any increase in traffic associated with new waterfront development. The plan recommends development of a new rail transit system along The Embarcadero on the Belt Line tracks, and recognizes, as well, the easy availability of existing public transit in the waterfront area. Numerous modes of public transit serve both the Ferry Building area and Fisherman's Wharf and the proposed continuous transit route along the waterfront should efficiently unite a now fragmented service. Convenient and inexpensive transit should accommodate a substantial number of new trips to the waterfront and should also make feasible the minimization of waterfront parking as called for in the policies of the Special Area Plan limiting parking on replacement fill. In addition, a significant

number of new trips may be taken by foot if development attracts daytime visitors from the downtown financial district.

The impact of increased traffic on general vehicle circulation in the waterfront area will depend on the adequacy of the street system to accommodate additional traffic. One area where the existing system may need improvement is Pier 45. If the plan's recommendations for Pier 45 are implemented, additional traffic would be generated in an already congested area and could constitute a potentially major adverse impact of such development. In recognition of this possibility, a solution for the vehicle circulation problem at Fisherman's Wharf and Pier 45 should be worked out and discussed in a specific Environmental Impact Report before any development proceeds.

In the case of the Ferry Building area, the Special Area Plan proposes a new circulation system which would accommodate the additional traffic along this portion of the waterfront as well as the existing traffic on the surface Embarcadero and the Embarcadero Freeway. Specifically, the plan recommends the removal and replacement of the Embarcadero Freeway in accordance with the concepts expressed in the report by the City Planning Department entitled "A Transportation System for the Embarcadero Area," summarized on pages 2 & 3 of this report. On the basis of the City's report and discussions with staff representatives of CalTrans, the Department of City Planning and the Department of Public Works, it seems likely that, under normal conditions, the proposed surface and subsurface roadway along The Embarcadero could handle the current combined peak flow of the Embarcadero Freeway and the surface Embarcadero without a significant increase in congestion. If an accident or other traffic disturbance occurs on the Bay Bridge or the roadway itself, however, the new facility will probably back up to a greater extent than is now the case, because it will not have the excess capacity of the current surface and elevated system.

The proposed new circulation system should not result in more traffic traveling through downtown streets. The replacement roadway can handle existing peak (and off-peak) traffic, and additional peak travel demand in the future will be accommodated on transit. With no increase in traffic on downtown streets, there should be no increase in traffic congestion in the downtown business district.

It is anticipated, however, that there will be a redistribution of existing traffic. Construction of the proposed roadway along The Embarcadero will eliminate the Broadway off-ramp and redistribute the traffic currently using that ramp to Clay/Washington or to points further along The Embarcadero. This change in the pattern of vehicle circulation is expected to have the positive effect of reducing traffic through residential areas, particularly in the North Beach, Telegraph Hill and Russian Hill areas. There may be some increase in traffic passing by residences in the Bay-Northpoint area, but the net impact of traffic on city neighborhoods is expected to be reduced.

It is further expected that the proposed replacement roadway will also accommodate additional traffic generated by waterfront development without creating a congested traffic situation. Most of the trips generated by commercial

recreation development along the waterfront will be recreational trips, most of which will not occur during peak commute periods. Since the new roadway proposed in the City's report is expected to handle peak traffic flows, it will not be a problem to accommodate additional traffic in off-peak periods and weekends.

Construction of the proposed transportation system will take approximately six to seven years, during which time there will probably be serious inconveniences and delays. Therefore a short-term adverse effect on the efficiency of vehicle circulation must be anticipated. Implementation of the Special Area Plan recommendations regarding transportation will also result in a loss of the parking spaces now located beneath the Embarcadero Freeway. This loss, however, will be accompanied by new accommodation for pedestrians and bicycles as well as an improvement in public transit service along the waterfront.

Economics. Adoption of the Special Area Plan and subsequent development would have a multifaceted economic impact on the Port of San Francisco, the City and the private sector. While the precise economic impact of the plan will depend, to a degree, on the type and scale of development that occurs, a general picture of the likely outcome of plan policies can be drawn.

Non-maritime development on Port properties, consistent with Special Area Plan policies, would lead to a net increase in revenue to the Port. This income would be derived from rent paid by developers for the use of Port property, and from percentages of gross revenues. According to the economic analysis conducted as part of the waterfront planning process, income from commercial recreation development allowed under the Special Area Plan, when added to income from planned development on other Port properties, including Pier 45 and the seawall lots on the northern waterfront, could result in an annual net revenue of nearly $3 million to the Port of San Francisco. The economic consultant also indicated that, although the issue was not studied in depth, it was likely that removal of the Embarcadero Freeway could increase the obtainable rents for many of the permitted uses by as much as 20 - 25%. This increase would result from removing a physical and visual barrier between the waterfront and the rest of the city and thereby making the space more attractive for development and public use.

A further economic impact on the Port, and one impossible to adequately determine at this time, is the possible effect increased Port revenues from non-maritime use might have on maritime activities. The health of Port operations in San Francisco is at least partly tied to the income generation of northern waterfront non-maritime property, and $3 million in new net revenue from non-maritime property could significantly improve the fiscal situation and competitive position of the Port of San Francisco.

Waterfront development permitted by the Special Area Plan would also lead to an increase in tax revenues to the City but, despite this increase in the tax base, the potential fiscal benefit to the City is not as clear as the benefit to the Port. First, there could be a cost to the City for the provision of certain municipal services including police and fire protection and, perhaps, park maintenance. These costs are difficult to determine without a detailed development plan, so the balance between costs and revenues cannot be determined at this time. Second, implementation of the Special Area Plan could conceivably lead to a level of commercial recreation development on the waterfront that might be harmful to other similar commercial areas already established in other parts of the city. For example, hotels on the waterfront are very likely to do well because of the attractiveness of a bayfront location, but this success might be at the expense of other hotels located inland. Further, there might be a limit to the amount of commercial recreation the city economy can absorb. If competition from waterfront development became harmful to established businesses, there would be a direct economic effect on some merchants and an indirect impact on the city in the form of a loss of sales tax revenue. Additional economic study of specific development proposals will be necessary to gauge the effect of such proposals on the city's economy.

Implementation of the Special Area Plan would also have an economic impact on the private sector, with the primary economic benefit being the provision of goods, services and public amenities offering a greater range of choice than is now available. Of particular importance would be the increased recreational opportunities along the waterfront, since recreational use of the shoreline is now limited by the lack of facilities and access. Open space along the waterfront would enhance the use, and therefore the economic potential, of nearby commercial development. Additionally, the economic benefit from recreational activities themselves have been estimated, in a general study of the Bay Area, to be considerable in terms of the amount that users would be willing to pay for recreational resources.

A secondary economic impact of plan implementation, also beneficial, would be the creation of jobs both during construction and later during operation. There would probably be few highly paid professional jobs, but opportunities would be created for construction and service jobs associated with hotels, restaurants, shops, etc. Development might also provide summer jobs for students if business increased during the tourist season. The income from these jobs would then contribute to some local economy with the extent of the impact on San Francisco depending on the extent to which money earned locally was also spent locally. If employees resided in other Bay Area communities, there would be an indirect beneficial impact on those communities if money earned in San Francisco was spent in those communities.

Finally, if the Special Area Plan recommendations for the Fisherman's Wharf area are implemented, the result could be a substantial increase in the number of commercial fishermen based in San Francisco. This would probably lead to an increase in the amount of fish processing activity, and could create a number of jobs in conjunction with a general revitalization of San Francisco's commercial fishing industry.

Provision of Services and Utilities. Any substantial new non-maritime development on the San Francisco waterfront would require utilities, including gas, electricity, water and telephones and services, including garbage collection, park maintenance, police and fire protection and sewerage.

PG & E provides gas and electricity to the Port of San Francisco, which in turn supplies its tenants. No difficulty is anticipated in supplying gas and electricity to new waterfront development, even if such development is quite large. All lines could be placed underground, although the cost of undergrounding would be substantial. Water, too, could be supplied to waterfront development with no great difficulty, although installation of a new pipeline system, especially in the China Basin area, might be necessary. However, the extent to which adjustments or additions to the existing system would be necessary can only be determined when more specific plans are available. Telephone service also poses no problem, but Pacific Telephone would have to become involved in the project planning process at an early stage, particularly if lines are to be placed underground. Specific proposals for development should take into account the location of Pacific Telephone transbay cable equipment at the end of Pier 1 and Western Union facilities at Pier 3. Relocation of this equipment, particularly from Pier 1, would be tremendously expensive and should be avoided if possible.

In San Francisco, garbage collection is not a municipal service, but, rather, one provided by private scavenger companies. Port tenants in any new development would be responsible for contracting with the company servicing the waterfront area involved. Park maintenance and police and fire protection are services routinely carried out by the City and County of San Francisco, but provision of these services to new waterfront development could present some difficulties. The San Francisco Department of Recreation and Parks, which maintains the City's parks, is already over-extended and lacks adequate funds or personnel to maintain the parks now existing in the city. The Department anticipates that creation of parks proposed in the Special Area Plan would place an even greater burden on it if those parks came under its jurisdiction. The Department would have a difficult time adequately maintaining new waterfront parks without a substantial budget increase. Similarly, provision of police protection to new non-maritime developments on the waterfront appears to be in question. The Port of San Francisco has 14 harbor policemen who patrol only areas in maritime use. The Port feels that police protection for areas in non-maritime use should be provided by the City, while the City believes that this is the function of the Port's harbor police. This conflict would have to be resolved before adequate police protection could be provided to substantial new waterfront developments on Port property. Fire protection, on the other hand, could be provided by the fire boats and the City's fire department, although some upgrading of water mains along the waterfront will probably be required. Finally, any new development would have to be connected to the City's sewer system for the disposal and treatment of wastewater. Such connection poses no problem although substantial development could increase the City's storm and sanitary flow.

Safety. Implementation of Special Area Plan policies and recommendations should lead to improved safety on the waterfront in a number of ways. First of all, by clarifying what will be permitted on replacement fill, the plan makes it more likely that unsafe, rotting platforms and piles will be removed and replaced by safe new platforms. Any development on replacement piers would be reviewed for seismic safety by BCDC's Engineering Criteria Review Board. Second, by recognizing the possible need for a breakwater at Fisherman's Wharf, the plan endorses the goal of providing protection for the commercial fishing fleet in Fish Alley. Third, the recommended pedestrian/bicycle path system along the waterfront would enhance the safety of pedestrians and cyclists on The Embarcadero. Fourth and finally, development of uses that would attract both day and night use would afford a greater sense of safety at night than does the line of dark and deserted pier sheds that now line unused portions of the waterfront.

Special consideration should be given to the public safety aspects of any substantial development on existing finger piers since problems of ingress and egress could be critical in the event of a fire or other disaster. While the Special Area Plan recommends generally that fire safety be considered in the development of existing piers, the following, more specific measures, developed in a report by the Citizens' Waterfront Committee, should also be considered when project proposals are made:

- Uses attracting large numbers of people should be located near the shore rather than toward a pier's outer end.
- Buildings and piers should have smoke and fire detection systems as preventive measures.
- Buildings and piers should have sprinkler systems, pressure lines and hydrants as firefighting measures.
- Buildings and piers should also have easy and multiple access points and routes for fire vehicles
- Buildings and piers should also have easy and multiple escape routes to shore for their public occupants. The State regulations of at least two exits, at least 1/2 diagonal dimension of the pier apart is highly recommended.

Visual Aspects. The Special Area Plan should have a generally beneficial impact on the visual environment along the waterfront. Redevelopment of deteriorated areas would lead to the removal of eyesores on the waterfront and new development would be required to preserve and create view corridors to the Bay. In addition, the plan suggests the removal of facades between piers in maritime use wherever possible, thus calling for creation of view corridors even where there is to be no new development. The creation of new park areas would add visual amenity to the waterfront as would the public access and open space required in conjunction with any new development.

Finally, the recommended removal of the Embarcadero Freeway, if accomplished, would have a marked beneficial impact, and the proposed inland re-routing of the I-280 extension would prevent similar visual obstruction of the waterfront south of the Bay Bridge.

B. Any Adverse Environmental Effects that Cannot be Avoided if the Proposal is Implemented.

1. Removal and Replacement of Piers and Piles. The removal and replacement of piers and piles that may occur in conjunction with permitted development along the San Francisco waterfront would lead to a certain unavoidable disruption of Bay flora and fauna. This disruption, however, would be localized and short in duration. Existing piles would be replaced by new piles and the disrupted species would re-establish themselves.

2. Breakwaters. A breakwater at Fisherman's Wharf, or in conjunction with a marina, could have a potentially unavoidable adverse impact, particularly on Bay currents and local water quality. The extent of such impact, however, would be a factor of design. The impact of a breakwater on the free flow of Bay currents cannot, by definition, be fully avoided but it can be minimized by careful project design.

3. Construction. There are likely to be some adverse effects on the local environment as a result of demolition and building activity along the waterfront. While probably unavoidable, these conditions would be of relatively short duration. These short-term adverse effects include noise, dust, debris, disruption of circulation and some local degradation of air quality as a result of exhaust emissions from construction equipment.

4. Waterfront Commercial Recreation Development. The major adverse effect of waterfront development will be an increase in traffic along the waterfront, particularly during weekends and evenings. While the extent of the increase would depend on several factors including the nature and scale of development and the degree to which public transit is used, some increase in vehicle emissions is probably unavoidable.

C. Mitigation Measures Proposed to Minimize the Impact. As has been emphasized throughout this report, the proposed Special Area Plan establishes broad policy guidelines for development of the San Francisco waterfront. Within these parameters, development could take a variety of forms with environmental impacts ranging from negligible to significant. In general, design and construction of specific projects should be such as to minimize any adverse environmental impacts, and mitigation measures, if necessary, should be considered when any given development reaches the project stage. That is, if a particular project is shown to have a significant adverse impact on the environment, a program for mitigating that impact should be prepared in conjunction with specific planning for that project. In particular, detailed project plans should, when appropriate, indicate how either adequate replacement in kind, or in-lieu-of provision, will be made to mitigate any loss of irreplaceable resources that might occur as a result of the project.

Similarly, energy conservation measures should be considered at the project planning stage in order to avoid inefficient and unnecessary consumption of energy that might otherwise result from implementation of the proposed Special Area Plan. While the plan is general and contains no design specifications, it is clear that energy will be required for the construction and operation of any new waterfront development. Such development would also have an indirect impact on energy consumption caused by additional automobile trips generated by new attractions along the waterfront. Nevertheless, wasteful consumption of energy is not a necessary outcome of waterfront development if energy conservation measures are incorporated into the design and operation of individual projects. Energy conservation should also be taken into account in planning the transportation, circulation and parking aspects of any new waterfront development.

Numerous energy conservation measures are available and should be specified as an element of project plans for any new waterfront development. For example, various energy-efficient design and building techniques can be used to minimize the energy requirement of new buildings by reducing the amount of fuel needed for heating and air conditioning. Buildings might be oriented to absorb winter solar heat and reflect or avoid summer solar heat, and various types of building insulation are possible, including the use of reflective insulating glass. In San Francisco, and along the waterfront in particular, buildings might be designed with windows that open to take advantage of the natural cooling effect of the city's sea breezes. The application of efficient lighting practices should be considered, as well, in the design of buildings or larger projects.

Certain transportation measures can also aid in avoiding excessive consumption of energy by providing disincentives to automobile usage. Alternative means of transportation can be provided as, for example, the rail transit system recommended in the Special Area Plan, to minimize automobile traffic along the waterfront. Limiting parking, as does the Special Area Plan, may also achieve a reduction in traffic. If use of private automobiles can be reduced in favor of public transit, an accompanying decrease in energy consumption may be accomplished.

D. Alternatives to the Proposed Action.

1. No Project. Amendment #1-71 to the Bay Plan provides that no commercial development may occur on replacement fill unless it is consistent with a special area plan for the vicinity of the project. Therefore, passage of the Special Area Plan is a precondition to any development on replacement fill along the San Francisco waterfront. If the plan is not adopted, the Port of San Francisco will be unable to undertake commercial recreation development involving the removal and replacement of piers. This would mean, in effect, that any commercial development could occur only on existing piers that are structurally sound, while those piers unable to support development would continue to deteriorate. Without the possibility of revenue-producing uses on replacement fill, there would be no economic incentive for any private party to remove rotting, abandoned piers, and it is unlikely that either the Port or the City could undertake the expense of removing them. The ultimate result of the no-project alternative, then, would probably be limited development of existing piers where possible, and a continuation of the status quo on large portions of the waterfront. While this alternative would avoid the possible adverse impacts of the plan, as described in previous sections, it would also preclude the stated benefits of the plan, particularly in terms of public access and use of the waterfront.

2. Alternative Land Uses. During the planning process which led to the Special Area Plan, exhaustive consideration was given to permitting additional uses, namely housing and offices, on replacement fill. Consideration was also given to various park proposals.

Housing and Offices. Permitting housing and office development on replacement fill, in addition to commercial recreation uses, would have certain positive effects in terms of land use. Housing could provide increased stability to a development by introducing the element of permanent occupancy and enhancing both day and night use of the waterfront area. Housing, in combination with other uses, would also provide opportunities for an urban living experience that could, perhaps, bring some residents back to the city. Offices, too, might enrich the mix of permitted uses by introducing a sense of daytime business activity and providing some continuity with adjacent land uses. Finally, housing and offices could help to physically define open space and could add to the number and variety of activities taking place in that open space.

Despite the desirable effects of expanding the permitted use mix, there were compelling arguments in opposition to the addition of housing and

offices. Permitting such uses on replacement fill would require both a Bay Plan amendment and a change in the McAteer-Petris Act because housing and offices on new or replacement fill are currently prohibited under the law. Since the original impetus behind the formation of BCDC was a desire to prevent filling of the Bay for such non-water-ralated uses as housing and offices, a change in the law that would grant an exception to the City of San Francisco could set a precedent that might undermine Bay protection, particularly if other jurisdictions around the Bay revived old plans to fill the Bay for like uses. The precedent of BCDC approval of housing and offices on fill could, in fact, encourage new proposals for similar development on fill, and the amount of fill that might result would have a serious adverse impact on the Bay. Further, economic analysis showed that housing on replacement fill would be only marginally profitable for the Port even if rents were extremely high, due primarily to the high cost of platform construction. Similarly, offices of the maximum height permitted by the City ordinance would not return any revenue to the Port if constructed on replacement piers. Offices would necessarily be high-rise and possibly very bulky in order to generate revenue for both the developer and the Port, a situation that would be prohibited by the City's height and bulk ordinances. Thus, the economic analysis provided an additional argument against changing the law to permit a type of development that in any case appears very unlikely under prevailing economic conditions. Finally, office development along the waterfront would generate increased traffic at peak commute periods and therefore cause a greater increase in air pollution than the alternative selected.

Waterfront Promenade. In the course of the planning process, some consideration was given to removing deteriorated piers and creating a simple landscaped promenade in the areas flanking the Ferry Building. This alternative would have numerous positive effects including a net increase in water surface area and avoidance of any adverse ecological and socio-economic impacts that might be associated with commercial development on replacement piers. Continuous public access would be provided and this simple treatment of the waterfront would give a clean edge to part of the city. On the other hand, this plan would bring no revenue to the Port and would, in fact, lead to the loss of income from pier space that is curretly rented. Implementation of this plan would be unlikely since the cost of pier removal would be a considerable public expense. Nevertheless, this alternative is not precluded by the Special Area Plan.

Waterfront Park. Another alternative suggested during the planning was a park, with limited commercial recreation, in the area of Piers 1-7 north of the Ferry Building. This alternative would provide continuous public access to the Bay and increased opportunities for public recreation. It would also avoid those ecological and socio-economic impacts described earlier in the report as resulting specifically from extensive commercial recreation development in this area. The park alternative is not precluded by the proposed Special Area Plan, but neither does the plan limit development north of the Ferry Building to park use since implementation of the park concept is unlikely at present. Development of a park, particularly if it were on replacement piers in the Ferry Building area, would be an expensive, non-revenue-producing project. The Port and the City have indicated that substantial funds from another public source would be essential to implementation of this alternative.

E. The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity. The biological productivity of the San Francisco waterfront was seriously reduced in the 1800's and early 1900's when large areas of fill were placed along the shoreline and a major port developed. The filled area has long since been extensively urbanized and large sections of the waterfront are now lined with deteriorated piers, no longer in maritime use. Implementation of the Special Area Plan would have a largely positive short-term effect on these areas by spurring revitalization and renewed public use of a now blighted waterfront. While such new waterfront development would require substantial investment and would preclude the ecological benefits of returning large areas to open water, no additional long-term productivity would be lost. The plan would thus not adversely affect the long-term productivity of the environment but would enhance public use of an area where natural productivity was long ago disrupted.

F. Any Irreversible Environmental Changes that Would be Involved in the Proposed Action Should it be Implemented. The natural features of the original San Francisco waterfront were long ago lost under earth fill, various paving materials, buildings and piers. Any environmental change that might come after adoption of the Special Area Plan would therefore be a change from one man-made environment to another. Although such change may be considered more or less permanent, particularly in light of the substantial investment that would go into waterfront redevelopment, no irreversible loss of any environmental resource should result from plan implementation, beyond the loss of resources associated with energy production. Energy will be used in the construction and maintenance of any commercial recreation development along the waterfront and resources will be consumed in heating, cooling, lighting, etc. Energy conservation measures such as those described on page 39 of this report can moderate the use of resources needed to produce power.

G. The Growth-Inducing Impact of the Proposed Action. The Special Area Plan for the San Francisco waterfront contains growth-inducing aspects in that it permits commercial development of waterfront areas within BCDC jurisdiction and also recommends some development of inland areas. Implementation of the plan would most directly affect economic growth with only a minor impact on population growth.

In the Fisherman's Wharf area, the Special Area Plan recommends that Fish Alley facilities be improved and expanded to serve the commercial fishing fleet. This might include construction of a breakwater, improved berthing, docking and sanitation facilities and expansion and modernization of fish processing facilities. Implementation of this recommendation could lead to a substantial increase in the number of commercial fishing vessels berthed at Fisherman's Wharf and, in turn, to an expansion in those activities directly related to fishing boat activity, including processing, distribution, marine supply operations, etc. Thus, some economic growth might result if the plan recommendations for Fish Alley were carried out. For the most part, however, this growth would constitute a return to an earlier situation when many more fishermen were based at Fisherman's Wharf. The return of a large commercial fishing fleet to San Francisco is likely to have a positive impact on the

Fisherman's Wharf area as a whole by reinforcing the authentic atmosphere of a working wharf. At the same time, the number of commercial fishermen based at other locations in the Bay region may be somewhat reduced.

From Fisherman's Wharf to the Ferry Building area, considerable building activity is now taking place on seawall lots between Telegraph Hill and The Embarcadero. In addition, proposals are now being considered for a very substantial development on Pier 45. The Special Area Plan would have very little effect on this current growth. Piers 9-35 are to remain in active maritime use and Piers 37-41 will eventually be developed into North Point Park, as called for in the City's Northern Waterfront Plan. The renovation of Pier 35 as a modern passenger terminal is recommended in the Special Area Plan and, if such renovation takes place, a hotel of 200-400 rooms will be permitted on replacement fill in the vicinity of Pier 37. The passenger terminal and hotel, if built, will create construction jobs and operational, service jobs when complete but, beyond that, the growth-inducing impacts of these two projects should not be significant. Rather, they will complement and serve an already thriving tourist trade while perhaps providing a pedestrian focus for office and residential development now occurring across The Embarcadero.

The Ferry Building area (Piers 7-24) is likely, in itself, to be the locus of substantial development, since adoption of the Special Area Plan will permit development on replacement fill that could not now occur. While this development would mean significant economic growth in a currently unproductive, deteriorated area, it is not clear that this localized growth and redevelopment would stimulate additional growth in adjacent inland areas. The development will include no residential use and it is likely that new commercial recreation uses will serve the existing local and regional populations as well as the tourists. Thus, there is not likely to be a significant increase in population as a result of such development.

North of the Ferry Building, the area immediately inland leaves little room for additional development as it is occupied by the Golden Gateway and the downtown financial district. Thus, in this area, substantial inland growth is unlikely to be a result of waterfront development. On the other hand, waterfront development south of the Ferry Building is likely to be more closely tied to the inland situation than will be the case north of the Ferry Building, since the landward side of The Embarcadero is ripe for revitalization and significant change.

Development of the piers flanking the Ferry Building is likely to be growth-inducing in terms of the revenue that will accrue to the Port of San Francisco. Development here is expected to be a large source of non-maritime revenue, and, in combination with development of Pier 45 and various seawall lots, could produce approximately $3 million in annual income to the Port. There is a possibility that the non-maritime revenue from waterfront development permitted and encouraged by the Special Area Plan could be applied directly to enhancement and expansion of the Port's maritime facilities. Maritime expansion, in the form of modern container terminals, would occur south of China Basin where more room is available for this kind of expansion.

The remaining area where development is proposed lies between the Bay Bridge and China Basin. Here the plan suggests redevelopment of an inland triangle of land, bounded by 2nd Street, Bryant and The Embarcadero, as a mixed-use residential neighborhood. It is further suggested that development of the seawall lots and piers in this area be compatible with and oriented to a new inland neighborhood. Thus, the commercial recreation use of replacement fill permitted by the plan is highly unlikely to induce any inland growth. On the contrary, waterfront development of this type probably won't occur unless mixed-use development occurs in the inland area mentioned.

If a new neighborhood were developed here, as suggested in the Special Area Plan, it would involve some population growth for the City of San Francisco and could lead to significant changes in the surrounding area. However, such growth would not result directly from adoption of the plan. That is, the proposed redevelopment triangle is outside of BCDC jurisdiction and mention of it in the Special Area Plan is no more than a suggestion which could be pursued by other city agencies.

IV. WATER QUALITY

BCDC adoption of the proposed Special Area Plan does not require approval from the Regional Water Quality Control Board. Specific development projects following adoption of the Special Area Plan may, however, require such approval.

V. SOURCES

A. References.

(1) Bay Area Air Pollution Control District, Air Pollution and the San Francisco Bay Area. December, 1973.

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(3) City and County of San Francisco and U. S. Environmental Protection Agency, Draft Environmental Impact Report on San Francisco Wastewater Master Plan. February, 1974.

(4) Delisle, Glenn, California Department of Fish and Game, Preliminary Fish and Wildlife Plan for San Francisco Bay Estuary. October, 1966. Prepared for the Bay Conservation and Development Commission.

(5) Goldman, Harold B., Senior Geologist, California Division of Mines and Geology, Geology of San Francisco Bay. February, 1967. Prepared for the San Francisco Bay Conservation and Development Commission.

(6) Gruen Gruen + Associates, Economic Analysis of First-Cut Space/Use Alternatives for the San Francisco Waterfront. April, 1974. Prepared for Bay Conservation and Development Commission San Francisco Waterfront Advisory Committee.

(7) League of Women Voters, Report of the League of Women Voters of San Francisco on the San Francisco Port. September, 1974.

(8) Little, Arthur D., Inc. and URS Research Company, Draft Environmental Impact Report on Yerba Buena Center Public Facilities and Private Development. May, 1973.

(9) Mayor's Citizens' Committee for the Preservation and Beautification of the Fisherman's Wharf Area, Report of the Mayor's Citizens' Committee for the Preservation and Beautification of the Fisherman's Wharf Area. May, 1974.

(10) Metropolitan Transportation Commission, Airport and Harbor Accessibility in the San Francisco Bay Area. January, 1974.

(11) Port of San Francisco, Annual Report. 1969.

(12) San Francisco Department of City Planning, Transportation Noise: A Proposal for Citizen Review. August, 1974.

(13) San Francisco Department of City Planning, A Transportation System for The Embarcadero Area. November, 1974.

(14) Stanford Research Institute, Recreation and Fishery Values in the San Francisco Bay and Delta. October, 1966.

(15) U. S. Army Corps of Engineers, Public Brochure: Navigation Study, Fisherman's Wharf Area, San Francisco Harbor, California. September, 1974

(16) U. S. Geological Survey, Tidal Current Chart for San Francisco Bay. 1969.

(17) Rockrise Odermatt Mountjoy Amis and Keyser/Marston Associates, Embarcadero Gardens Resource Document. 1974. Prepared for Citizens Waterfront Committee.

B. Agencies and Individuals Contacted.

Technical assistance and information for the Draft Environmental Impact Report were received from the following:

Lt. James Calden, San Francisco Bureau of Fire Prevention

Mr. Harold Coffee, Civil Engineer, Division of Sanitary Engineering, San Francisco Department of Public Works

Mr. Joseph Damas, Chief of Monitoring, Regional Water Quality Control Board

Mr. A. O. Fredland, Principal Engineer, Division of Sanitary Engineering, San Francisco Department of Public Works

Mr. Stephen Low, Food and Environmental Health Inspector, Bureau of Environmental Health Service, San Francisco Health Department

Mr. Ted McHugh, Director of Public Information, Bay Area Air Pollution Control District

Mr. R. E. McKillikan, Power Engineer, Pacific Gas and Electric Company

Mr. Malloy, San Francisco Recreation and Parks Department

Mr. Nagasaki, Engineer, San Francisco Water Department

Mr. Al Sever, Regional Staff Supervisor, Pacific Telephone Company

Mr. Go Shih, Engineer, U. S. Army Corps of Engineers

C. Agencies Consulted.

An Environmental Working Paper (pre-DEIR) was distributed for consultation and comment to the following agencies:

(1) Federal Agencies.

Environmental Protection Agency, Region IV
National Park Service, Golden Gate National Recreation Area
U. S. Army Corps of Engineers
Fish and Wildlife Service, U. S. Department of the Interior

(2) State and Regional Agencies.

State Lands Commission
State Department of Parks and Recreation
State Department of Transportation (CalTrans)
Department of Navigation and Ocean Development
Department of Fish and Game, Region III
State Attorney General's Office
Regional Water Quality Control Board
Bay Area Air Pollution Control District
Metropolitan Transportation Commission
Association of Bay Area Governments

(3) Local Agencies.

Port of San Francisco
San Francisco Department of City Planning
San Francisco Department of Parks and Recreation
San Francisco Department of Public Works
San Francisco Redevelopment Agency

(4) Consultants.

Gruen Gruen + Associates, Economic Consultant to Bay Conservation and Development Commission San Francisco Waterfront Advisory Committee

Written comments on the Environmental Working Paper were received from the Fish and Wildlife Service, Regional Water Quality Control Board, Bay Area Air Pollution Control District, State Department of Fish and Game and San Francisco Department of Public Works. In addition, verbal comments were received from the Port of San Francisco, the Department of City Planning, the Redevelopment Agency and Gruen Gruen + Associates. All comments were taken into account in the final preparation of the Draft Environmental Impact Report.

VI. COMMENTS

A. During the review period, the staff received written comments from the following agencies and individuals:

State Agencies

Governor's Office, Office of Planning and Research, Air Resources Board, California Department of Transportation (CalTrans)

Citizens Groups

San Francisco Tomorrow

BCDC Commissioners

Fred F. Cooper, Commissioner

All of the letters received are reproduced on the following pages. Staff responses to the issues raised in the comments received are included in the next section, VII. ISSUES RAISED.

B. Agencies and Individuals Contacted

The final Environmental Impact Report was prepared with technical assistance from the following:

Cel Alfafara, Environmental Planner, California Department of Transportation

B. C. Bachtold, Deputy District Director, California Department of Transportation

Richard Hacker, Public Information Officer, Bay Area Air Pollution Control District

Alan Lubliner, Transportation Planner, San Francisco Department of City Planning

William Marconi, Senior Traffic Engineer, San Francisco Department of Public Works

Ralph A. Mead, Senior Planner, Bay Area Air Pollution Control District

State of California
GOVERNOR'S OFFICE
OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO 95814

EDMUND G. BROWN JR.
GOVERNOR

March 11, 1975

RECEIVED
MAR 13 1975
SAN FRANCISCO BAY CONSERVATION
& DEVELOPMENT COMMISSION

Ruth Koch
Bay Conservation Development Comm
30 Van Ness Ave
San Francisco, CA 94102

SUBJECT: SCH 75011502 - DEIR ON PROPOSED SPECIAL AREA PLAN FOR S.F. WATERFRONT

Dear Ms. Koch:

The above listed project was received in this office and disseminated to various State departments for review. The attached comment was generated by the (1) Air Resources Board, and cleared through the agency secretary.

1. Air Resources Board, For further information regarding this comment, please contact, William C. Lockett, 1709 11th Street, Room 104, Sacramento, 95814, (916) 445-0960.

The comment is aimed at assuring that your project is coordinated with appropriate State agencies to provide you with technical assistance where appropriate, and to insure a strong application to the funding agency. This letter serves as verification of your compliance with preapplication review requirements, and should be made a part of the final application to the funding agency. Although the attached comment is advisory in nature, you are required by law to respond to them and to inform the funding agency of your responses. The State Clearinghouse would appreciate receiving copies of any communications that you might have with the commenting department.

We request that you use the State Clearinghouse number assigned to your project on the cover page of your application, since this number will be used by both the funding agency and the State Clearinghouse at subsequent stages in the grant process.

Thank you for your cooperation.

Sincerely,

William G. Kirkham
Management Systems Officer
State Clearinghouse

WGK/pcd

cc: William C. Lockett, ARB
Mary Schell, Library
Waide Egener, ABAG

State of California

The Resources Agency

Memorandum

To : Honorable John R. Teerink, Director
Department of Water Resources
1416 Ninth Street
Sacramento, CA 95814

Attention: Mr. Ken Fellows

Date : February 24, 1975

Subject: Draft EIR on Proposed Special Area Plan for S.F. Waterfront San Francisco County SCH No. 75011502

From : Air Resources Board
William C. Lockett, Chief
Evaluation and Planning

W. C. Lockett

RECEIVED
MAR 13 1975
SAN FRANCISCO BAY CONSERVATION & DEVELOPMENT COMMISSION

The subject project consists of the Special Area Plan for a portion of the San Francisco Waterfront. The Plan is a recommendation of likely waterfront developments consisting of commercial, retail, fish processing, and residential uses. The primary objective of the Plan is to open the San Francisco Waterfront to public use.

The environmental impact report (EIR) contains a brief analysis relating the anticipated development within the provisions of the Plan and air quality. The EIR does not, however, contain an adequate study of existing air quality in San Francisco and does not estimate future air quality which would likely result from the proposed Plan. The report does recognize, nonetheless, that Federal and State air quality standards are often exceeded in the area, especially in South Bay communities downwind of the site. In actuality, the air quality in a major portion of the San Francisco Bay Area is so seriously deteriorated that it has been designated as a critical air area.

It is considered necessary that the EIR adequately address the air quality impact of the proposed waterfront development. Development permitted by the Plan, particularly commercial recreation and related traffic generation, may have a significant adverse impact on air quality. The EIR needs to contain sufficient detail concerning air quality to allow adequate evaluation by the decision makers of the cumulative effects of individual developments on future air quality. The Plan needs to demonstrate that the anticipated development is in harmony with the attainment and maintenance of ambient air quality standards.

The decision makers need to keep in mind the existing air pollution health problems and the Bay Area commitment to achieve and maintain healthy air.

RECEIVED
MAR 11 1975
Office of Planning & Research

EDMUND G. BROWN JR. GOVERNOR

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY

~~RONALD REAGAN, Governor~~

DEPARTMENT OF TRANSPORTATION

P. O. BOX 3366 RINCON ANNEX
SAN FRANCISCO 94119

February 20, 1975

04-SF-280,480

Mr. Charles R. Roberts
Executive Director
Bay Conservation and
Development Commission
30 Van Ness Avenue
San Francisco, CA 94102

Dear Mr. Roberts:

This is in response to your referral of the BCDC San Francisco Waterfront Advisory Committee's Report on the Special Area Plan for the San Francisco Waterfront and related Draft Environmental Impact Report.

The two documents mentioned are satisfactory with respect to functions and responsibilities of the State Department of Transportation. We would suggest some expansion in the discussion and evaluation of the impact of the replacement of the Embarcadero Freeway (Special Area Plan Report, Part 3, Section A).

The San Francisco Planning Department's report entitled "A Transportation System for the Embarcadero Area" presents a plan for replacing the existing elevated Embarcadero Freeway with a combination of surface and depressed roadways. It appears that such a facility can be designed to provide about the same capacity as the existing elevated freeway. However, the proposed facility will have to handle the combined total of about 80,000 ADT which is currently being served by the freeway viaduct and the surface Embarcadero. It is anticipated that this volume of traffic may result in some redistribution to other city streets and a somewhat lower level of service than now exists during peak-flow periods.

More severe traffic conditions can also be expected during the approximate 6 to 7 year construction period, especially when demolition of the existing viaduct closes the Clay/Washington and Broadway ramps. Since these are the only ramps in the vicinity that provide direct access to the north of Market area,

closure would mean that traffic would have to temporarily use city streets to reach the north of Market area.

The overall benefits and community acceptance of the project may well override these short-term inconveniences and adverse traffic impact. We believe it would be well to point out these relationships in greater detail.

Thank you for the opportunity of reviewing these documents.

Very truly yours,

T. R. Lammers
District Director

By B. C. Bachtold

B. C. Bachtold
Deputy District Director

San Francisco Tomorrow

9 FIRST STREET · ROOM 826 · SAN FRANCISCO, CA 94105 · TELEPHONE 566-7050

SAN FRANCISCO TOMORROW COMMENTARY

DEIR
BCDC SPECIAL AREA PLAN
SAN FRANCISCO WATERFRONT

A DRAFT EIR produced by an agency like the BCDC, a agency that was brought into existence to help defend a major part of our environment - namely, S.F. Bay itself - must, of necessity, set a shining example in the EIR field. It must be especially accurate, adequate and complete. It must convey all relevant known information and develop and convey other relevant facts that are not known. It must not duck any issues. Nor overlook any reasonable alternatives. And it must clearly and completely register the potential adverse impact of the proposed action.

SFT recognizes that the preceding is no simple task. To assist the BCDC staff, our representative, Richard Gryziec, met with the DEIR author, Ms. Ruth Koch, and suggested several changes in the DEIR that would lead to its improvement. The major changes are, for the written record, included in this commentary.

The first section of our commentary covers recommended changes in the Environmental Description section of the DEIR; the second section deals with proposed changes in the Environmental Impact section. The topics in each of our sections do not follow the order of the BCDC DEIR but, rather, are listed in their rough order of importance to SFT.

ENVIRONMENTAL DESCRIPTION

PIERS

PIERS 9-28: The information on the structural integrity of these (and other piers in the DEIR comes from the Port of San Francisco and is based on the piers' ability to support very large maritime warehousing loads. Thus, there are two defects in the information. First, as those of us familiar with the Port have found, any information based on Port personnel judgement is highly suspect andfrequently wrong. Second, the new non-maritime uses proposed in the Special Area Plan are almost always to be housed in buildings under 40' and to include uses whose loads will be only half (50%), at most, of maritime warehousing loads.

We recommend that the DEIR, instead, use the information developed for the Citizens Waterfront Committee's Embarcadero Gardens study. This study, using independent private soils and structural consultants and assuming uses quite similar to those found in the Special Area Plan, rated the pier platforms in this area as follows:

Piers 9, 26, 28	Very Good	(less than $1/s.f. to make usable)
Piers 1, 3, Ag. Bldg.	Good	(" " $5/s.f. " " ")
Pier 7	Fair	(" " $10/s.f. " " ")
Piers 22, 24	Poor	(more than$20/s.f. " " ")
Piers 5, 14, 16, 18, 20	Very Poor	(unusable)

(Note: $20/s.f. equals the cost of a totally new pier platform.)

PIER 94: This fill pier is incomplete and partially collapsed, due in part to human error and in part to natural causes. It is not now in use nor may it ever be. There is a real question about the economic and physical feasibility of placing large amounts of fill in deep water on very deep unstable mud, as contrasted with purchasing adjacent existing stabilized land and dredging (if required) to the desired 40' water depth.

We recommend that allreferences to Pier 94 be corrected to describe accurately the existing situation.

SEAWALL LOTS

The Port's Seawall lots are numerous and large in area. They provide a substantial present and future income to the Port, income which may be vital. They also may represent, especially south of the Bay Bridge, an economical means of expanding maritime services. In short, they are very important parcels - parcels that have too often been overlooked.

We recommend that the DEIR also not overlook these parcels and provide a more complete description of the Seawall lots' location, size, use, and income.

TRANSPORTATION

TRAINS: Rail service is vital to contemporary ports. Unused (or under-used) rail lines represent opportunities for new uses. A clear, accurate picture of the S.F. Port-serving rail lines is, thus, quite important. Unfortunately, the DEIR rail service description is neither accurate nor complete.

Further, with regard to the office limitation in Areas C-D, we would hope that an additional reason for deciding against new office use in this location was that: office use is the one use that would ensure increased auto traffic at the peak commute periods, periods which are already 100% congested. We ask that this reason be added.

PUBLIC SAFETY

Building over water is different from building on land. Especially building on long narrow piers over water. Without fail-safe pre-cautions, such construction can be fatally dangerous. Fireboats - at least the Bay Area fleet - do not have the speed nor the capacity to be as effective as land-based fire trucks. Many existing piers are so long and narrow that there is real danger of people - including firemen - being cut-off from shore and safety. Unlike land locations, people trying to flee a fire cannot run into the streets or across backyards. It's either head for the shore or dive into the bay - a hard choice for the elderly, the very young, the handicapped, the non-swimmers.

The CWC Embarcadero Gardens study considered this problem in depth and reached the following conclusions:

- Uses attracting large number of people should be located near the shore rather than toward a pier's outer end.
- Buildings and piers should have smoke and fire detection systems as preventive measures.
- Buildings and piers should have sprinkler systems, pressure lines and hydrants as firefighting measures.
- Buildings and piers should also have easy and multiple access points and routes for fire vehicles.
- Buildings and piers should have easy and multiple escape routes to shore for their public occupants. The State regulations of at least two exits, at least 1/2 diagonal dimension of the pier apart is highly recommended.

We believe the BCDC and this DEIR should discuss this special public safety problem and adopt thepreceding recommendations. Failure to do so may cause BCDC to be held partly liablein case of future loss of property, injury, or loss of life.

ADVERSE IMPACTS

Startingly, several obvious adverse impacts are omitted from the DEIR. Those we believe to be omitted are:

- Increased traffic, especially on weekends and evenings
- Resultant noise and air pollution
- Consumption of resources (for heating/ventilating/light/power/etc..)

These must be included and assessed, at least approximately. This can be done in an approximate manner. The Embarcadero Gardens study found it possible to estimate demand and consumption with only gross areas of varying uses. Capacities of street and utility systems, as well as legal limits for pollution and noise, are known. So a comparison of demand and capacity, which equals impact, should be feasible. We believe this should be done.

UTILITIES

Use of utility systems can also be estimated, in gross numbers, from the Plan and the impact on them assessed.

In addition, the Plan and the DEIR should locate and describe the several underwater cables and utility lines that terminate or are located on the waterfront. In some cases, they greatly affect the proposed uses. For example, the PT&T have a transbay cable station at the outer end of Pier 1, the relocation of which would cost a developer several million dollars, according to PT&T. A similar, though less costly, situation exists with the Western Union cable station at the outer end of Pier 3.

We recommend that this, and other, pertinent information be obtained from the various utilities that have cables or facilities on the waterfront.

ENVIRONMENTAL IMPACT

PIER 45

The DEIR states that Pier 45 development will not fall under BCDC "use jurisdiction" and, thus, need not be considered in this report.

This contention is inaccurate.

As several witnesses to the hearing on this DEIR testified - and as SFT also believes - the proposed Pier 45 commercial development may well fall under BCDC use jurisdiction. The City has new, more stringent seismic regulations. Supporting the proposed new buildings, which will be occupied by 800-1000 residents, 500 hotel guests and - at peak periods - hundreds of shoppers, diners and other people, may well require new structuralsupport for that part of the pier now on pilings (the exterior perimeter of some 90'-95' in depth). Should this occur, BCDC will, by its own regulations, have such use jurisdiction. People on the BCDC staff, itself, believe this situation is a likelihood!

Thus, the issues raised by BCDC use jurisdiction must be faced or the Special Area Plan's recommended uses for Pier 45 deleted from the plan until the nature of the BCDC jurisdiction is known precisely.

If included in this Plan and DEIR, then the potential impacts must also be assessed, as are all of the other proposed non-maritime uses included in the Plan.

FAILURE TO TAKE THE ACTION NOTED IN THE PRECEDING TWO PARAGRAPHS COULD WELL LEAD TO LITIGATION.

Should BCDC elect to assess the impacts, that assessment should include, in particular, auto circulation and parking problems; resultant air pollution problems; economic impact problems on wharf businesses; and public safety (escape routes from fire/earthquake/tsunami) problems.

ALTERNATIVE PLANS

Several alternative ideas for parts of the waterfront were presented or discussed before the Advisory Committee. In the interest of completeness and accuracy, shouldn't these be included in the DEIR? We believe they should. Those that we recall include the following:

- Citizen Waterfront Committee's "Embarcadero Gardens": Area C-D
- Warren Simmons' "Embarcadero Marina": Area C-D
- Maritime use of Area E (see Gryziec memorandum on Redevelopment Agency proposal for Areas C-D-E)

In addition, the Committee also discussed - and resolved - a limitation on the amount of hotel rooms permitted in Areas C-D. Shouldn't this be explained like the office/apartment limitation? We believe it should.

We recommend that the S.P., W.P., and Santa Fe lines be better and more completely described, perhaps with a map. We also suggest that the Belt Line information be reviewed for accuracy and that the traffic north of the Bay Bridge be separated from that south of the Bridge. In addition, rail traffic serving Port tenants and others (like the Bauer-Schweitzer Malting Co.) also be separated and described.

TRANSIT: We suggest that the DEIR note that the Calif. Street cable car also serves the waterfront.

GEOLOGY

The underlying soils conditions have considerable effect on the cost and safety of waterfront development. In San Francusco, the deep water and even deeper unstable mud below make both new fill and new piers costly and, in some cases, create difficult seismic safety problems. Thus, the DEIR geologic information must not be inaccurate.

We suggest that the location of load-bearing rock be carefully reviewed, as studies with which we are familiar indicate that such rock is much further below water level than is generally stated in the DEIR.

NOISE

Both the City and federal governments have legal limits for noise. These are not noted in the DEIR but should be. In addition the DEIR should state just how existing and future noise levels compare to the legal limits and whether these levels do - or will - exceed the limits.

We suspect that they will, and that mitigating measures will have to be recommended.

BOARD OF SUPERVISORS

FRED F. COOPER
SUPERVISOR THIRD DISTRICT

RECEIVED
JAN 29 1975
SAN FRANCISCO BAY CONSERVATION
& DEVELOPMENT COMMISSION

January 27, 1975

Bay Conservation & Development Commission
30 Van Ness Avenue
San Francisco, California

Re: San Francisco Waterfront Plan and the Embarcadero Freeway

Dear Ladies and Gentlemen:

I have reviewed the draft environmental impact report on the proposed special area plan for the San Francisco Waterfront and feel that it does not adequately cover the recommendation for removal of the Embarcadero Freeway, and that either that recommendation should be removed from the plan or the draft EIR should be substantially expanded.

The Embarcadero Freeway handles 60,000 cars per day, and diversion of this traffic would have substantial impacts as follows:

1. If the traffic is to be diverted into residential neighborhoods, the impact of the traffic on such neighborhoods should be described.

2. If the traffic is to be released into downtown, the impact of the traffic on air pollution when 60,000 drivers are told to take ten to fifteen minutes to cross town through traffic signals and through other traffic, rather than take two minutes on the existing freeway, this impact should be described.

3. If the traffic is to be diverted to the surface of the Embarcadero the impact on the waterfront plan should be described.

4. If the traffic is to be diverted into the proposed sub-surface freeway then the impact of the sub-surface freeway in terms of noise and air pollution should be described, the reduction of parking and access to the waterfront should be considered, and the advantages and disadvantages compared with the existing overhead freeway should be described.

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I personally have always felt that the proposal to remove the Embarcadero Freeway was wrong, and I believe I expressed my opposition to that effect a year or so ago when the matter came before BCDC previously. I have not previously made my opposition public, except when I was asked to vote on the subject at BCDC, since the matter is one primarily of local concern to San Francisco, but if I am to be asked to vote on a plan that includes the present recommendation for removal of the Embarcadero Freeway, I intend to vote against the plan and to vote against the draft EIR in its present form.

While part of my concern about the subject relates to my feeling that San Francisco should not finance removal and replacement out of gas tax funds, I am opposed to the concept regardless of the source of the funds since I think any alternative plan is likely to be worse when air pollution, waterfront access, and other factors are taken into consideration. While ordinarily I would not raise financing as a consideration, it seems to me that the financing of the Port of San Francisco has been a major consideration in preparation of the proposed plan, and that it is not possible to allow financing of one aspect of the plan to be considered and exclude other aspects.

Without further information it seems to me at this point that the proposal is to exchange what some people consider visual pollution from the present freeway for a new system which it is doubtful can be financed and which will provide pollution of the air in exchange for pollution of the sight, as well as reducing public access to the waterfront and public parking near the waterfront. It seems to be that the draft EIR is really deficient in this regard and that it either has to be greatly expanded or the references to the Embarcadero Freeway in the proposed plan should be deleted.

Yours truly,

Fred F. Cooper

Fred F. Cooper
Chairman

FFC.g

BOARD OF SUPERVISORS

FRED F. COOPER
SUPERVISOR THIRD DISTRICT

March 18, 1975

RECEIVED

Bay Conservation & Development Commission
30 Van Ness Avenue
San Francisco, CA

Dear Ladies and Gentlemen:

I will be meeting with the Governor in Sacramento Thursday on County business and so it looks like I may miss your meeting. As you know, I am quite concerned with the environmental impact report on the San Francisco Waterfront Plan and accordingly want to point out that it is deficient in the following respects.

1. At page 57 of the report is the statement "A detailed study of existing air quality along the waterfront, however, was not feasible". The report on the same page goes on to concede that impact of the development and increased travel demand will result in some decrease in air quality, "though the degree of impairment may be minimal".

Expressing hope that air pollution "may be minimal" is inadequate. A study is required. The detailed study referred to is necessary. Nothing in CEQA refers to application of its requirements only where "feasible".

2. A letter from Cal Trans between pages 49 and 50 points out that 80,000 cars per day use the Embarcadero and the Embarcadero Freeway, which total ten lanes (page 12), and the report proposes that this traffic, plus additional traffic generated by the development, be funnelled into four lanes (page 2). There is no detailed traffic study demonstrating the viability of this proposal. The report proposes public transit along the waterfront, which should also be the subject of a traffic study. The traffic study must develop a detailed projection of future traffic from the development, so that projections of noise, air pollution, and traffic congestion can be developed in detail.

3. At page 51 is the concession that, with regard to noise "it is impossible to determine" the advantages of elevated, surface and subsurface roadways on

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noise without a very detailed study. Such a study is required before a final EIR can be adopted.

The final EIR herein is not complete. It cannot be adopted without detailed studies of air pollution, noise, and traffic and circulation. Such studies are necessary to enable the Commission to determine, before it adopts a plan, such questions as:

1. Will the increased air pollution in the Waterfront area violate federal standards?

2. Will the violation of federal air standards require local authorities to prohibit parking in the area, and what effect would this have on plan implementation?

3. Will traffic problems be such that the plan should recommend removal of the Embarcadero Freeway only after public transit along the waterfront is in operation, and what type of public transit should be required?

4. What are the advantages and disadvantages of elevated, surface and sub-surface roadways with regard to traffic, parking, noise and air pollution?

5. Since noise is greatest with a surface roadway (page 27) will the level of noise from such a roadway drive away the people expected to use and enjoy the Waterfront?

6. Will the amount of traffic along the proposed surface roadway effectively preclude pedestrian access to the Waterfront Plan in some areas?

7. How can the problems raised by these and other similar questions best be avoided or mitigated?

This is to request that this letter be read into the record this Thursday and that my objection to the adoption of the proposed final EIR be also entered into the record.

Yours truly,

Fred F. Cooper
Chairman

FFC.g

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
30 Van Ness Avenue, San Francisco 94102 557-3686

March 20, 1975

TO: All Commissioners and Alternates
FROM: Charles R. Roberts, Executive Director

SUBJECT: STAFF RESPONSE TO COMMISSIONER COOPER'S LETTER OF MARCH 18, 1975
(For Commission consideration at meeting of March 20, 1975)

In a letter dated March 18, 1975, Commissioner Cooper raises several points to be considered in discussing certification of the final Environmental Impact Report on the Special Area Plan for the San Francisco waterfront. Commissioner Cooper indicates that detailed studies of air quality, traffic and noise should be undertaken before certification of a final EIR and he poses seven additional questions which depend on such detailed studies for response.

Some of the questions posed by Commissioner Cooper have been answered in the proposed final Environmental Impact Report, while others were considered to require a level of detail beyond the scope of this report. In preparing the Environmental Impact Report on the Special Area Plan, the staff relied on Section 15147 of the State EIR Guidelines. This section states, "The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR . . . An EIR on projects such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow."

The following discussion will indicate which of Commissioner Cooper's questions are addressed in the final EIR and which were considered to be more appropriately pursued in future environmental impact reports on specific projects.

1. Air Quality - While more detailed, quantitative information on current air quality could have been developed, with considerable additional expenditure of staff time and in consultation with outside experts on air quality, the staff felt that such additional detail would not be particularly useful in considering the impact of the very general policies and recommendations of the Special Area Plan. Specific technical information on current air quality will be important as a point of comparison when project plans are developed, but comparable technical information on future air quality cannot be developed until such time as detailed development specifications are available for waterfront projects. Therefore, the Environmental Impact Report indicates, on page 10, that such detailed information should be developed for future EIR's on specific projects.

2. Traffic and Circulation - Technical studies by traffic engineers at CalTrans and the San Francisco Department of Public Works formed

the basis for the design concept recommended in the City's report, "A Transportation System for the Embarcadero Area." As indicated on pages 2 - 3, and page 33 of the EIR, these studies led to the conclusion that the proposed replacement roadway would handle the combined peak flow of the Embarcadero Freeway and the surface Embarcadero without significantly increasing congestion. A detailed projection of future traffic generated by waterfront development, as requested by Commissioner Cooper, cannot be made until the precise nature and scale of waterfront development are known.

3. Noise - A detailed study of the noise impact of the Special Area Plan cannot be made without specific development plans for the waterfront. Since the Special Area Plan does not contain such design detail, a quantitative study of noise impacts is beyond the scope of the EIR and more appropriate to future EIR's on specific development proposals.

Brief staff response to the seven specific questions raised by Commissioner Cooper are as follows:

1. Based on the information available, it appears that violation of federal air quality standards would be a highly unlikely outcome of the Special Area Plan. Air quality in San Francisco is very good and emissions of carbon monoxide, hyrdocarbons and nitrogen oxides related to vehicle traffic are currently well below federal standards. Given that the transportation system recommended in the Special Area Plan emphasizes public transit and proposes a limited capacity roadway, it is improbable that federal ambient air quality standards will be violated in San Francisco as a result of waterfront development alone.

2. The implications of violating federal air standards should be considered if future EIR's on specific development proposals show that such violation will occur.

3. The impact of the Special Area Plan on circulation is discussed on pages 32 - 34 of the EIR. With the exception of the construction period, a significant adverse impact on the efficiency of vehicle circulation is not expected to result from removal and replacement of the Embarcadero Freeway.

4. The EIR discusses the impact of the Special Area Plan on traffic, parking, noise and air pollution, with the existing situation as the point of comparison. These issues are addressed in the EIR with the degree of specificity possible and appropriate given the general nature of the Special Area Plan.

5. There is no evidence to indicate that the level of noise from a surface roadway would drive away the people expected to use and enjoy the waterfront. Justin Herman Plaza, adjacent to The Embarcadero, is heavily used by the public despite the noise from the surface Embarcadero and reflected noise from the Embarcadero Freeway.

6. The question of pedestrian access is answered on pages 50 and 51 of the EIR in response to a previous question from Commissioner Cooper.

7. On page 39, the EIR states that "design and construction of specific projects should be such as to minimize any adverse environmental impacts, and mitigation measures, if necessary, should be considered when any given development reaches the project stage."

VII. ISSUES RAISED

A. In a letter dated January 21, 1975, Commissioner Fred Cooper raised several points related to the impact of removing the Embarcadero Freeway as recommended in the Special Area Plan.

1. If the traffic is to be diverted into residential neighborhoods, the impact of the traffic on such neighborhoods should be described.

STAFF RESPONSE: The Special Area Plan recommends that the Embarcadero Freeway be removed and replaced in accordance with the concepts expressed in a report by the Department of City Planning entitled, "A Transportation System for the Embarcadero Area" (November, 1974), summarized on pages 2 and 3 of the report. Implementation of the proposed transportation system would not result in the diversion of traffic into residential neighborhoods, and, in fact, a reduction in traffic through some neighborhoods is expected.

The impact of the proposed circulation system on residential neighborhoods is described on page 33.

2. If the traffic is to be released into downtown, the impact of the traffic on air pollution when 60,000 drivers are told to take ten to fifteen minutes to cross town through traffic signals and through and over traffic, rather than take two minutes on the existing freeway, should be described.

STAFF RESPONSE: Implementation of the transportation system as proposed in the Special Area Plan will not result in an increase in traffic on downtown city streets. The traffic now carried by the Embarcadero Freeway would be routed onto a surface and subsurface replacement roadway located in The Embarcadero right-of-way. In addition, public transit as proposed in the plan would likely shift some of the projected travel demand from private cars to public transit. The impact on air quality that would result from implementation of the Special Area Plan, including the anticipated effect of the proposed transportation system, is discussed on pages 25-27.

3. If the traffic is to be diverted to the surface of The Embarcadero, the impact on the waterfront plan should be described.

STAFF RESPONSE: Future travel demands will be handled by both a new surface and subsurface roadway in The Embarcadero right-of-way, and a new public transit system, as described on pages 2 and 3. While development along the waterfront could proceed without altering the existing transportation system, it is anticipated that implementation of the recommendations regarding removal and replacement of the Embarcadero Freeway would have beneficial effects on the waterfront plan.

Briefly, removal of the Embarcadero Freeway will make possible a closer relationship between inland uses and the Bay, and pedestrian access in the vicinity of the Ferry Building will be enhanced by depressing the new Embarcadero roadway at the foot of Market Street, as proposed in the City's report. On the surface portions of The Embarcadero, traffic will be controlled by signals for ease of pedestrian crossing. Therefore, the proposed roadway will not create a significant traffic barrier between the city and its waterfront. In addition, the transit aspects of the proposed transportation system will facilitate movement between centers of activity along the waterfront.

The text of this report has been revised to reflect the impact of the proposed transportation system on various aspects of the Special Area Plan, as indicated above.

The impact on land use is described on page 30, and the impact on public use of the waterfront is discussed on page 21. The anticipated economic impact of freeway removal is discussed on page 35 and the visual impact is covered on page 38.

4. If the traffic is to be diverted into the proposed subsurface freeway, then the impact of the subsurface freeway in terms of noise and air pollution should be described, the reduction of parking and access to the waterfront should be considered and the advantages and disadvantages compared with the existing overhead freeway should be described.

STAFF RESPONSE: The plan makes no recommendation for a new subsurface freeway. A portion of the proposed replacement roadway would be depressed at the foot of Market Street and on- and off-ramps to Clay and Washington Streets would be depressed as well. For the most part, however, the proposed facility would be a non-freeway, surface roadway.

The comparative impacts of an elevated, surface and subsurface roadway on noise are discussed on page 27. Because of the variety of factors involved, it is impossible to determine which situation is more advantageous in terms of noise without a very detailed study. Such a study would require analysis of the relative noise generation of an elevated double-decked freeway, a depressed roadway, and a surface roadway. In general, to a pedestrian at ground level, an elevated double-decked freeway generates more noise than a depressed roadway, but less noise than a surface roadway. But the situation is even more complicated here because there is noise from traffic on the surface Embarcadero and noise from traffic on the freeway's lower deck which is reflected back to grade level by the bottom of the upper deck. If the proposed transportation system is implemented, on the other hand, noise from overhead will be eliminated but there will be noise from surface and subsurface traffic.

The impact on air quality of the Special Area Plan as a whole, including implementation of the proposed transportation system, is discussed on pages 25-27. Briefly, air pollution is likely to be somewhat increased over present levels by emissions from traffic associated with new waterfront development. An additional slight increase could result from the lower traffic speeds associated with accommodating existing levels of traffic on a new surface and subsurface roadway. The proposed waterfront transit system could, however, be significant in reducing vehicle use and, therefore, air pollution. With regard to the long-term effect on air quality, it appears that removal of the Embarcadero Freeway and replacement as proposed in the Special Area Plan would be advantageous, as the proposed system has a much greater potential for meeting increased travel demand without increasing vehicle traffic than does the existing system.

Implementation of the Special Area Plan will result in the elimination of metered parking now available underneath the Embarcadero Freeway. However, the City's transportation report calls for the development of peripheral parking in the south of Market area, with a shuttle-bus system, which would compensate for the loss of parking on The Embarcadero. The parking area located in front of the Ferry Building will remain, and the Special Area Plan will allow some parking on replacement fill in conjunction with new development if no upland location is feasible. Thus, any reduction in parking associated with removing the Embarcadero Freeway should not have long-term significance in the context of implementing the Special Area Plan as a whole.

The impact of the proposed transportation system on pedestrian access was discussed above in response to Question 3. With regard to vehicle access, the existing system serves both waterfront and downtown destinations. The proposed system would serve these destinations equally well and the addition of new public transit will enhance the accessibility of the waterfront.

B. San Francisco Tomorrow submitted numerous comments on the DEIR as follows:

1. Information on the existing condition of Piers 9-28, developed for the Citizens' Waterfront Committee's Embarcadero Gardens study, should be used instead of the data presented in the DEIR.

STAFF RESPONSE: In preparing the final EIR, additional information was gathered on the condition of all the piers with reference both to the information provided by San Francisco Tomorrow and further discussions with the Port's Chief Engineer. The section on current pier condition (page 11) has been substantially re-written to reflect more accurately the condition of the piers and the uses for which they are suited. The maps illustrating pier condition have also been revised.

2. All references to Pier 94 should be corrected to describe accurately the existing situation.

STAFF RESPONSE: All references to Pier 94 have been revised to reflect more accurately the status of that pier.

3. A more complete description of the seawall lots' location, size, use and income should be provided.

STAFF RESPONSE: This level of detailed description does not seem to be consistent with the generalized nature of the Special Area Plan and EIR. However, this information may be found by reference to the Special Area Plan maps and the economic analysis prepared by Gruen Gruen + Associates entitled "Economic Analysis of First-Cut Space/Use Alternatives" (May, 1974).

4. The Southern Pacific, Western Pacific and Santa Fe lines should be better and more completely described, perhaps with a map. The Belt Line information should also be reviewed for accuracy and traffic north of the Bay Bridge should be separated from that south of the Bridge. Rail traffic serving Port tenants and others should be separated and described.

STAFF RESPONSE: The section describing rail service along the waterfront (pages 12 and 13) has been substantially expanded in response to this comment.

5. The EIR should note that the California Street cable car also serves the waterfront.

STAFF RESPONSE: This suggestion has been incorporated into the text on page 19.

6. The location of load-bearing rock should be carefully reviewed as studies seem to indicate that such rock is much further below water level than is generally stated in the DEIR.

STAFF RESPONSE: The depth of bedrock in the area south of China Basin has been revised to reflect the existing situation more accurately (page 4). More detailed geological studies will need to be developed as part of the EIR process for development proposals along the waterfront.

7. Both the City and federal government have legal limits for noise which should be noted in the EIR. In addition, the EIR should state how existing and future noise levels compare to the legal limits and whether these levels do--or will--exceed the limits.

STAFF RESPONSE: There is no detailed noise information available for the San Francisco waterfront although sound level meter readings are being taken and studied by the City. Existing noise levels are discussed on page 10 with reference to the general information available and the accompanying map illustrates background noise levels in 1974 compared to the residential outdoor

noise level acceptable to the Environmental Protection Agency. The generalized impact of the Special Area Plan on noise is discussed on page 27. A determination of future noise levels would require detailed technical study beyond the scope of this report.

8. The DEIR states that Pier 45 development will not fall under BCDC "use jurisdiction" and, thus, need not be considered in this report. This contention is inaccurate.

   STAFF RESPONSE: In preparing the final EIR, the statement noted above was deleted and the impacts of recommended development on Pier 45 were considered to the same extent that the impacts of recommended uses on other portions of the waterfront were considered.

9. Pier 45 may well require structural support for that part of the pier now on pilings. Should this occur, BCDC will have use jurisdiction. The issues raised by BCDC use jurisdiction must be faced or the Special Area Plan's recommended uses for Pier 45 deleted from the Plan until the nature of BCDC jurisdiction is known precisely.

   STAFF RESPONSE: Planning decisions for Pier 45 were based on information from the Port indicating that Pier 45 was structurally sound and could support substantial development without alteration. The Special Area Plan recommendations for Pier 45 therefore assume that BCDC will have shoreline jurisdiction only, and the EIR assesses the impact of the recommended development based on that assumption. If future engineering studies show that development of Pier 45 will require structural alterations that would bring proposed new uses of the pier under BCDC Bay jurisdiction, the Special Area Plan policies, recommendations and map designations for Pier 45 would become inapplicable, and new policies, recommendations and map designations would need to be developed as a Special Area Plan amendment. Such an amendment may require a separate EIR.

10. If recommended uses for Pier 45 are included in the Special Area Plan, then the potential impacts must also be assessed as are all of the other proposed non-maritime uses included in the Plan. That assessment should include, in particular, automobile circulation and parking problems, resultant air pollution problems, economic impact problems on wharf businesses and public safety (escape routes from fire/earthquake/tsunami) problems.

    STAFF RESPONSE: The impact of recommended development on Pier 45 is specifically addressed on page 30 under Land Use Pattern, on page 31 under Public Use, and on page 33 in the discussion of Circulation and Parking. The EIR discusses generally the impact on air quality of waterfront development. While no part of the waterfront is mentioned specifically, the discussion is certainly

applicable to development that might occur on Pier 45. Similarly, there is a general discussion, under Economic Impacts, of the possibly adverse effect on existing businesses of competition from new commercial recreation development. This, too, is applicable to Pier 45. Finally, the potential hazards to public safety associated with development on existing piers is discussed at length on pages 37 and 38.

11. Several alternative ideas for parts of the waterfront were presented or discussed before the Advisory Committee. In the interest of completeness and accuracy, these should be included in the EIR. The following should be included:

-Citizens' Waterfront Committee's "Embarcadero Gardens"
-Warren Simmons' "Embarcadero Marina"
-Maritime Use of Area E (Bay Bridge to China Basin)

STAFF RESPONSE: The Special Area Plan defines permitted uses and other conditions for development, but does not define the design of development. Two specific proposals showing development design for the area between Piers 7-24 were presented to the BCDC San Francisco Waterfront Advisory Committee during its planning process. The Embarcadero Gareens proposal included commercial recreation, amusements and open space and the Embarcadero Marina proposal included hotels, marinas and commercial recreation. These proposals were helpful to the Committee in illustrating two possible approaches to the intensity of use and design of this area. Since the uses in these more detailed development proposals would be permitted under the Special Area Plan, the proposals are not, in fact, alternatives to the plan, but rather illustrations of possible designs of land uses permitted under the plan.

Area E (Bay Bridge to China Basin) was never identified by the Port as an area that was being considered for future maritime expansion. Therefore, the non-maritime potential of this area was explored by the Waterfront Advisory Committee and recommendations made for such time as the area is no longer needed for maritime use. While the availability of land and of rail and highway links might make this area suitable for port use, the designation of new areas for maritime use was not within the scope of the Special Area Plan.

12. The Waterfront Advisory Committee also discussed and resolved a limitation on the number of hotel rooms permitted in the area of Piers 7-24. This should be explained as a plan alternative.

STAFF RESPONSE: The variable number of hotel rooms allowed under the plan is not considered to be a basic plan alternative. It is more akin to a variation of the present plan. Discussion of the innumerable number of possible variations to the Special Area Plan is plainly a task outside the scope of a plan EIR.

13. An additional reason for deciding against new office use in the area of Piers 7-24 was that office use is the one use that would ensure increased auto traffic at peak commute periods. This reason should be added.

STAFF RESPONSE: This has been added to the text on page 41.

14. The EIR should discuss the special public safety problem of building on finger piers and should adopt the recommendations developed by the Citizens' Waterfront Committee's Embarcadero Gardens study.

STAFF RESPONSE: The text has been revised in accordance with this comment (pages 37 and 38).

15. Several obvious adverse impacts are omitted from the DEIR including:

-Increased traffic, especially on weekends and evenings
-Resultant noise and air pollution
-Consumption of resources (for heating/ventilating/light/power/etc.)

STAFF RESPONSE: The impact of increased traffic is discussed in the sections on Air Quality, Noise, and Circulation and Parking. In addition, increased traffic is noted on page 38 as an unavoidable adverse impact of waterfront development. The consumption of resources had been discussed on page 42 under Irreversible Environmental Changes and energy conservation measures are covered in the section on Mitigation.

16. The use of utility systems should be estimated, in gross numbers, from the Plan and the impact on them assessed.

STAFF RESPONSE: The general discussion of utility systems on pages 36 and 37 was based on conversations with representatives of the various utilities. Any further detail is not consistent with the general nature of a plan EIR.

17. The EIR should locate and describe the several underwater cables and utility lines that terminate or are located on the waterfront.

STAFF RESPONSE: The location of Pacific Telephone and Western Union cable equipment at Piers 1 and 3 has been noted on page 36.

C. Comments on the DEIR were received from the District Director of the California Department of Transportation in a letter dated February 20, 1975.

1. The discussion and evaluation of the impact of the replacement of the Embarcadero Freeway should be expanded somewhat.

STAFF RESPONSE: The text has been extensively revised in response to this point, with assistance from the information provided in the letter from CalTrans as well as further discussions with the Deputy District Director, B. C. Bachtold. Other persons

consulted in preparing the final EIR are listed in Section IV. of this report.

D. The State of California, Office of Planning and Research circulated the DEIR to various state agencies for comments. The Air Resources Board responded as follows:

1. The Air Resources Board commented that the DEIR did not contain an adequate study of existing air quality or the impact of the proposed plan on future air quality. The ARB asked specifically that the EIR adequately address the air quality impact of proposed waterfront development, particularly with regard to traffic generation, and to relate expected air quality to ambient air standards.

   STAFF RESPONSE: In consultation with the Bay Area Air Pollution Pollution Control District, the sections on air quality have been substantially re-written to address the concerns expressed above.

   The discussion of existing air quality has been expanded to the degree possible, based on generalized information that the Bay Area Air Pollution Control District was able to provide. A detailed study of existing air quality along the waterfront, however, was not feasible.

   The final EIR includes a substantially expanded discussion of the impact of plan implementation on future air quality. This discussion addresses the air quality impact of proposed waterfront development and a consequent increase in travel demand to the waterfront as well as the impact of the transportation system proposed in the Special Area Plan. On the basis of this information, some decrease in air quality is expected, though the degree of impairment may be minimal.

   The generalized nature of the Special Area Plan makes it impossible to quantify the level of new development, and therefore travel demand and the resulting air pollution. It is thus unfeasible to relate the implementation of the plan to ambient air standards. This step is more appropriate for the next phase of project implementation, i.e., development project planning, which will also be screened through the EIR process. At that time, more detailed data on development will be available, and therefore quantitative relationship between development and air quality can be more accurately identified.

VIII. CERTIFICATION

The Final Environmental Impact Report on the Special Area Plan for the San Francisco Waterfront was certified by the San Francisco Bay Conservation and Development Commission, in its capacity as lead agency, on March 20, 1975.

ADDENDUM

The following additional comments were made by BCDC Commissioners at the meeting of March 20, 1975. At the request of the Commission, these comments have been attached as an addendum to the final Environmental Impact Report on the Special Area Plan for the San Francisco waterfront.

1. Commissioner Dianne Feinstein commented on the air quality discussion in the EIR, with reference to the removal of the Embarcadero Freeway as recommended in the Special Area Plan. She cited the San Francisco Planning and Urban Renewal highrise study, released on March 19, 1975, which showed that increased air pollution and automobile congestion were going to take place on a considerable level in San Francisco regardless of whether there were 600-foot tall buildings or 160-foot tall buildings in the downtown area. The study, however, pointed out that one of the most important factors in curbing adverse environmental effects would be development of public transit and discouragement of the automobile. The SPUR study also pointed out that only 41% of the office workers employed in buildings in the downtown area live in San Francisco.

   Commissioner Feinstein said that what San Francisco is trying to do is create an emphasis on transit to serve the region. She indicated that she differed with the conclusions of the EIR in that it was her belief that demolition of the Embarcadero Freeway would not have an adverse impact on air quality since demolition of the Freeway would be coupled with implementation of a new transit system. It was her strong feeling that the demolition of the Embarcadero Freeway, its replacement with a four-lane parkway at grade and the provision of additional transit would, in fact, diminish the use of the automobile, thereby improving air quality rather than causing its degradation.

2. Commissioner Joseph Houghteling made reference to a new report entitled "Present and Prospective San Francisco Bay Area Air Quality" (December, 1974). This report was prepared for the Metropolitan Transportation Commission by Stanford Research Institute. Commissioner Houghteling indicated that, in essence, the report shows that there will be an improvement in the air condition in the Bay Area to 1980 as a result of improved vehicle emissions control. Whether the Embarcadero Freeway is up or down will make very little difference to the regional quality of air. He felt that it was most important to address the regional impact of the Special Area Plan on air quality and, based on information contained in the report cited, that impact is not likely to be significant. In fact, there is hope that the regional quality of air will be better in 1980 just moving along as we are now with emissions control.

3. Commissioner Fred Cooper submitted a letter dated March 18, 1975 in which he raised several points to be considered by the Commission in discussing certification of the final Environmental Impact Report. That letter and staff response to the points raised are reproduced on the following pages.

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